OKI
PRINTING SOLUTIONS

C5450

User's Guide

C5000 Series

PREFACE

Every effort has been made to ensure that the information in this document is complete, accurate, and up-to-date. The manufacturer assumes no responsibility for the results of errors beyond its control. The manufacturer also cannot guarantee that changes in software and equipment made by other manufacturers and referred to in this guide will not affect the applicability of the information in it. Mention of software products manufactured by other companies does not necessarily constitute endorsement by the manufacturer.

While all reasonable efforts have been made to make this document as accurate and helpful as possible, we make no warranty of any kind, expressed or implied, as to the accuracy or completeness of the information contained herein.

The most up-to-date drivers and manuals are available from the Oki Europe website:

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As an Energy Star Program Participant, the manufacturer has determined that this product meets the Energy Star guidelines for energy efficiency.

This product complies with the requirements of the Council Directives 89/336/EEC (EMC) and 73/23/EEC (LVD) as amended where applicable on the approximation of the laws of the member states relating to electromagnetic compatibility and low voltage.

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NOTES, CAUTIONS AND WARNINGS

NOTE

A note appears in this manual like this. A note provides additional information to supplement the main text which may help you to use and understand the product.

CAUTION!

A caution appears in this manual like this. A caution provides additional information which, if ignored, may result in equipment malfunction or damage.

WARNING!

A warning appears in this manual like this. A warning provides additional information which, if ignored, may result in a risk of personal injury.

INTRODUCTION

Congratulations on buying this Oki Printing Solutions colour printer. Your new printer is designed with advanced features to give you clear, vibrant colour prints and crisp black and white pages at high speed on a range of print media for the office.

Your printer includes these features:

- Up to 16 pages per minute in full colour for fast printing of high impact colour presentations and other documents;
- Up to 24 pages per minute in black and white for fast and efficient printing of all general purpose documents not requiring colour;
- 1200 x 600dpi (dots per inch) print resolution for high quality image production showing the finest detail;
- Single Pass colour Digital LED technology for high speed processing of your printed pages;
- PostScript 3, PCL 5C and Epson FX emulations for industry standard operation and wide compatibility with most computer software;
- 10Base-T and 100Base-TX network connection lets you share this valuable resource among users on your office network;
- Photo Enhance mode to improve printouts of photographic images (PCL driver only);
- "Ask Oki" – a brand new, user-friendly function that gives a direct link from your printer driver screen to a dedicated web site specific to the exact model you are using. This is where you'll find all the advice, assistance and support you could need to help you get the best possible results from your Oki printer.

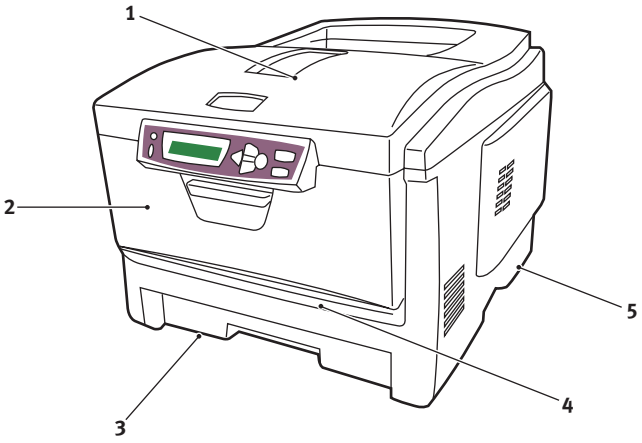
Additionally, the following optional features are also available:

- Automatic two-sided (duplex) printing for economical use of paper and compact printing of larger documents (standard on C5450dn);

- Additional paper tray for loading a further 530 sheets to minimise operator intervention, or different paper stocks for letterhead stationery, alternative paper sizes or other print media.
- Additional memory allows printing of more complex pages, including two-sided and booklet pages with the optional duplex unit.
- Internal 20GB hard disk drive for storage of overlays, macros and downloadable fonts, and automatic collation of multiple copies of multipage documents.

PRINTER OVERVIEW

FRONT VIEW

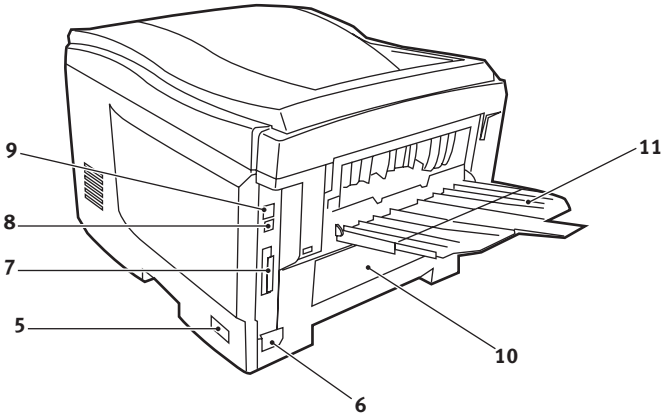


1. Output stacker, face down. Standard printed copy delivery point. Holds up to 250 sheets at 80g/m².	**3.** Paper tray. Standard blank paper tray. Holds up to 300 sheets of 80g/m² paper.
2. Operator panel. Menu driven operator controls and LCD display panel.	**4.** Multi purpose feeder. Used for feeding heavier paper stocks, envelopes and other special media. Also for manual feeding of single sheets when required.
	5. ON/OFF switch.

The LCD display language can be changed to show any of 14 different languages. (See "Changing the display language" on page 10.)

REAR VIEW

This view shows the connection panel, the rear output stacker and the location of the optional duplex (two-sided printing) unit.



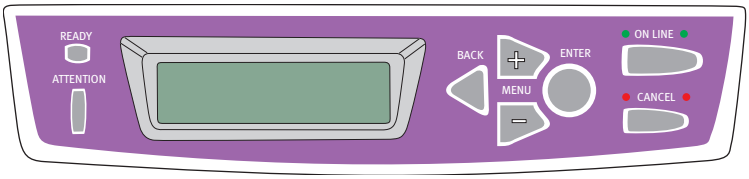
5. ON/OFF switch.	**9.** Network interface.*
6. AC power socket.	**10.** Location of optional duplex unit.
7. Parallel data interface.	**11.** Rear, face up, 100 sheet stacker.
8. USB interface.	

** The Network Interface has a protective "plug" which must be removed before connection can be made.*

When the rear paper stacker is folded down paper exits the printer through the rear of the printer and is stacked here face up. This is mainly used for heavy print media. When used in conjunction with the multi purpose feed tray, the paper path through the printer is essentially straight. This avoids bending the paper around curves in the paper path and enables feeding of up to 203g/m² media.

CHANGING THE DISPLAY LANGUAGE

The language used by your printer for display messages and for report printing can be changed quickly and easily as follows:



1. Press the **+** key repeatedly to access the System Configuration Menu.
2. Press the **ENTER** key to enter the System Configuration Menu.
3. Press the **–** key to move directly to the last item in this menu: LANGUAGE.
4. Press **ENTER** to change this setting.
5. Use the **+**/**–** keys to move in either direction through the list of available languages until the language you want is displayed.
6. Press the **ENTER** key to select this language.
7. Press the **ON LINE** key to exit the menu system and return the printer to standby.

The LCD display language can be changed to any of these languages:

English	Norwegian
German	Danish
French	Dutch
Italian	Turkish
Spanish	Portuguese
Swedish	Polish
Russian	Greek

PAPER RECOMMENDATIONS

Your printer will handle a variety of print media, including a range of paper weights and sizes, transparencies and envelopes. This section provides general advice on choice of media, and explains how to use each type.

The best performance will be obtained when using standard 75~90g/m² paper designed for use in copiers and laser printers. Suitable types are:

- Arjo Wiggins Conqueror Colour Solutions 90g/m²;
- Colour Copy by Neusiedler.

Use of heavily embossed or very rough textured paper is not recommended.

Pre-printed stationery can be used, but the ink must not offset when exposed to the high fuser temperatures used in the printing process.

Envelopes should be free from twist, curl or other deformations. They should also be of the rectangular flap type, with glue that remains intact when subjected to hot roll pressure fusing used in this type of printer. Window envelopes are not suitable.

Transparencies should be of the type designed for use in copiers and laser printers. We strongly recommend Oki Printing Solutions transparencies (Order No. 01074101). In particular, avoid office transparencies designed for use by hand with marker pens. These will melt in the fuser and cause damage.

Labels should also be of the type recommended for use in copiers and laser printers, in which the base carrier page is entirely covered by labels. Other types of label stock may damage the printer due to the labels peeling off during the printing process. Suitable types are:

- Avery White Laser Label types 7162, 7664, 7666 (A4), or 5161 (Letter);
- Kokuyo A693X series (A4) or A650 (B5).

CASSETTE TRAYS

SIZE	DIMENSIONS	WEIGHT (G/M²)	
A6 (Tray 1 only)	105 x 148mm	Light	64-74g/m²
A5	148 x 210mm	Medium	75-90g/m²
B5	182 x 257mm	Heavy	91-120g/m²
Executive	184.2 x 266.7mm	Ultra heavy	121-176g/m² (Tray 2 only)
A4	210 x 297mm		
Letter	215.9 x 279.4mm		
Legal 13in.	216 x 330mm		
Legal 13.5in.	216 x 343mm		
Legal 14in.	216 x 356mm		

If you have identical paper stock loaded in another tray (2nd tray if you have one, or multi purpose tray) you can have the printer automatically switch to the other tray when the current tray runs out of paper. When printing from Windows applications, this function is enabled in the driver settings. (See "Printer Settings in Windows" later in this guide.) When printing from other systems, this function is enabled in the Print Menu. (See "Menu Functions" later in this guide.)

MULTI PURPOSE TRAY

The multi purpose tray can handle the same sizes as the cassette trays but in weights up to 203g/m². For very heavy paper stock use the face up (rear) paper stacker. This ensures that the paper path through the printer is almost straight.

The multi purpose tray can feed paper widths as small as 100mm and lengths up to 1200mm (banner printing).

For paper lengths exceeding 356mm (Legal 14in.) use paper stock between 90g/m² and 128g/m² and the face up (rear) paper stacker.

Use the multi purpose tray for printing on envelopes and transparencies. Up to 50 sheets of transparencies or 10 envelopes can be loaded at one time, subject to a maximum stacking depth of 10mm.

Paper or transparencies should be loaded print side up and top edge into the printer. Do not use the duplex (two-sided printing) function.

FACE DOWN STACKER

The face down stacker on the top of the printer can hold up to 250 sheets of 80g/m² standard paper, and can handle paper stocks up to 176g/m². Pages printed in reading order (page 1 first) will be sorted in reading order (last page on top, facing down).

FACE UP STACKER

The face up stacker at the rear of the printer should be opened and the tray extension pulled out when required for use. In this condition paper will exit via this path, regardless of driver settings.

The face up stacker can hold up to 100 sheets of 80g/m² standard paper, and can handle stocks up to 203g/m².

Always use this stacker and the multi purpose feeder for paper stocks heavier than 176g/m².

DUPLEX UNIT

This option provides automatic two-sided printing on the same range of paper sizes as tray 2 (i.e. all cassette sizes except A6), using paper stocks from 75-105g/m².

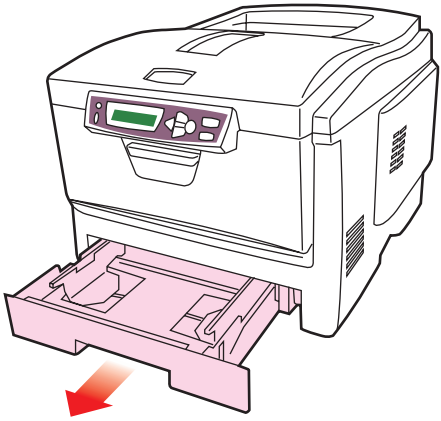
NOTE

The duplex unit comes as standard with C5450dn.

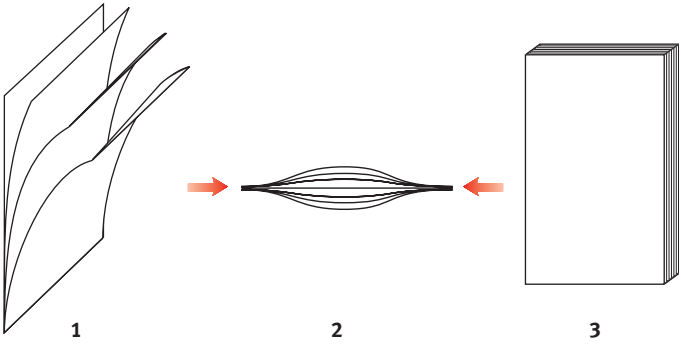
LOADING PAPER

CASSETTE TRAYS

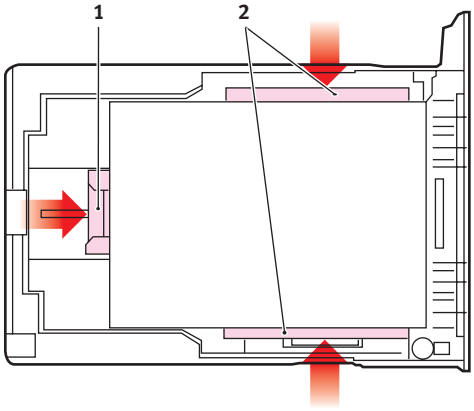
1. Remove the paper tray from the printer.



2. Fan the paper to be loaded at the edges (1) and in the middle (2) to ensure that all sheets are properly separated, then tap the edges of the stack on a flat surface to make it flush again (3).



3. Load letter headed paper face down and top edge towards the front of the printer, as shown.



4. Adjust the rear stopper (1) and paper guides (2) to the size of paper being used.

To prevent paper jams:

- Do not leave space between the paper and the guides and rear stopper.
- Do not overfill the paper tray. Capacity depends on the type of paper stock.
- Do not load damaged paper.
- Do not load paper of different sizes or types at the same time.
- Do not pull the paper tray out during printing (except as described below for the 2nd tray).
- Close the paper tray gently.

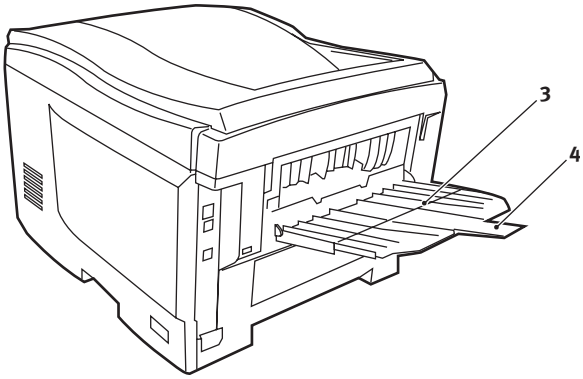
5. If you have two trays and you are printing from the 1st (upper) tray, you can pull out the 2nd (lower) tray during printing to reload it. However, if printing from the 2nd (lower) tray, do not pull out the 1st (upper) tray. This will cause a paper jam.

6. For face down printing, make sure the face up (rear) stacker (3) is closed (the paper exits from the top of the

printer). Stacking capacity is approximately 250 sheets, depending on paper weight.

7. For face up printing, make sure the face up (rear) stacker (3) is open and the paper support (4) is extended. Paper is stacked in reverse order and tray capacity is approximately 100 sheets, depending on paper weight.

8. Always use the face up (rear) stacker for heavy paper (card stock etc.).

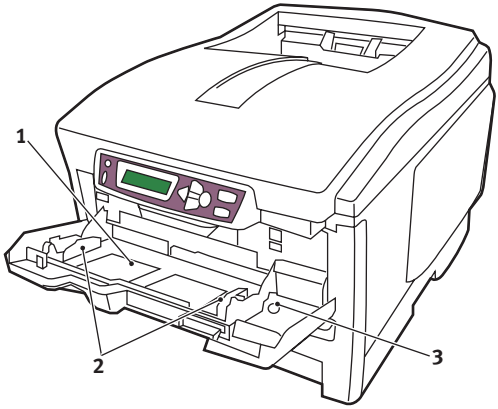


CAUTION!

Do not open or close the rear paper exit while printing as it may result in a paper jam.

MULTI PURPOSE TRAY

1. Open the multi purpose tray and press gently down on the paper platform (1) to ensure it is latched down.



2. Load the paper and adjust the paper guides (2) to the size of paper being used.

- For single-sided printing on headed paper load the paper into the multi purpose tray with pre-printed side up and top edge into the printer.
- For two-sided (duplex) printing on headed paper load the paper with pre-printed side down and top edge away from the printer. (Optional duplex unit must be installed for this function.)
- Envelopes should be loaded face up with top edge to the left and short edge into the printer. Do not select duplex printing on envelopes.
- Do not exceed the paper capacity of about 50 sheets or 10 envelopes. Maximum stacking depth is 10mm.

3. Press the tray latch button (3) inwards to release the paper platform, so that the paper is lifted and gripped in place.

Set the correct paper size for the multi purpose tray in the Media Menu (see "Menu Functions").

PRINTER SETTINGS IN WINDOWS

Your printer's operator panel menus provide access to many options. The Windows printer driver also contains settings for many of these items. Where items in the printer driver are the same as those in the operator panel menus, and you print documents from Windows, the settings in the Windows printer driver will override those items in the operator panel menus.

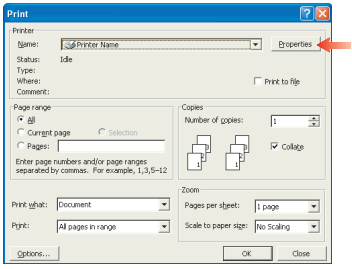
The illustrations in this chapter show Windows XP. Windows 2000 versions may appear slightly different, but the principles are the same. Differences in Windows 98 and Me are covered in a separate chapter.

PCL OR POSTSCRIPT

Two printer drivers are supplied with your printer: one for PCL emulation, and the other for PostScript 3 emulation. If you print mainly from general "Office" applications choose the PCL driver. For faster printing of PDF documents, choose PostScript. If you print mainly from professional DTP and graphics applications, choose PostScript.

PRINTING PREFERENCES IN WINDOWS APPLICATIONS

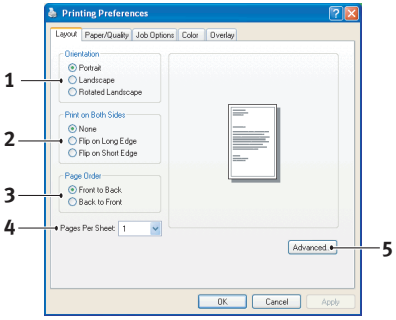
When you choose to print your document from a Windows application program a print dialogue box appears. This dialogue usually specifies the name of the printer on which you will print your document. Next to the printer name is a **Properties** button.



When you click **Properties** a new window opens which contains a short list of the printer settings available in the driver, which you can choose for this document.

The window which opens when you click **Properties** depends on which printer driver has been installed. The PostScript driver offers different choices to the PCL driver.

POSTSCRIPT EMULATION



1. Page orientation sets portrait (tall) or landscape (wide) page orientation. The "rotated" rotates the paper through 90 degrees anti-clockwise.

2. When printing double sided pages (duplex unit required). You can flip the paper either on its long edge or short edge.

3. Pages can be printed in forward or reverse order. If using the face down (top) paper stacker, forward order is usually appropriate to ensure that pages are stacked in numerical order. If using the face up (rear) paper stacker, reverse order would normally stack your pages in numerical order.

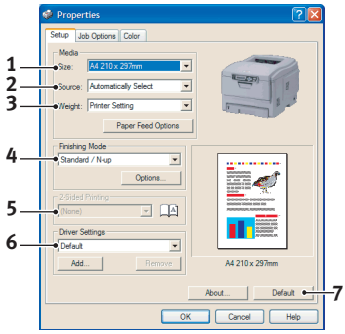
4. You can specify how many pages to print on a sheet. Pages will be scaled to fit the number you choose. If you choose booklet printing (requires duplex unit) two pages will automatically be set, and pages will be printed with the correct pages opposite one another so that folding the stacked printout produces a booklet.

5. Advanced options are also available, such as how to download TrueType fonts, and whether advanced options such as booklet printing are available.

The printer driver contains extensive on-line help for these items to help you make the most appropriate choices.

PCL EMULATION

When you click the **Properties** button from your application's Print dialogue, the driver window opens to allow you to specify your printing preferences for this document.



1. Paper size should be the same as the page size of your document (unless you wish to scale the printout to fit another size), and should also be the same as the size of paper you will feed into the printer.

2. You can choose the source of the paper to feed, which may be Tray 1 (the standard paper tray), Tray 2 (if you have the optional 2nd paper tray installed) or the multi purpose feeder. You can also click on the appropriate part of the screen graphic to select your preferred tray.

3. The setting for paper weight should match the type of paper on which you intend to print.

4. A variety of document finishing options can be selected, such as normal one page per sheet, or N-up (where N can be any number up to 16) for printing scaled down pages at more than one page per sheet. Booklet printing prints two pages per sheet on each side of the paper so that when folded they make up a booklet. Booklet printing requires the duplex unit to be installed in your printer.

Poster printing will print large pages as tiles spread over multiple sheets.

5. For two-sided printing, you can choose to flip the page by the long edge or the short edge. Of course, this requires that a duplex unit be installed in your printer.

6. If you have changed some printing preferences before and saved them as a set, you can recall them to avoid having to set them individually each time you need them.

7. A single on-screen button restores the default settings.

SECURE PRINTING FEATURE

With this feature you can send confidential documents to print and have them stored in the printer until you are ready to print them. Documents sent in this way are protected by a PIN (personal identification number), which must be entered before they will print. This is useful when you need to print confidential documents on a printer which is shared with, or accessible to, other people.

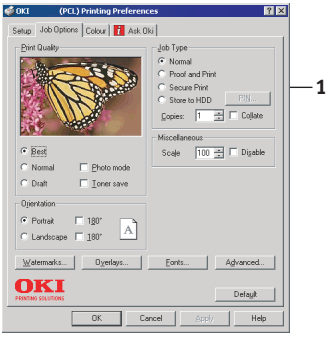
NOTE

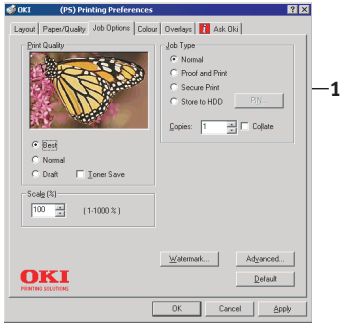
This feature requires the optional internal hard disk.

SENDING THE DOCUMENT TO PRINT

1. From your application's Print dialogue, select your printing choices in the normal way, and then click the **Properties** button.

2. In the driver window, on the **Job Options** tab and select **Secure Print** (1).





3. In the small pop-up window which appears, enter a name for this print job (16 characters maximum) and a 4-digit PIN using any combination of digits from 0 to 7 (do not use 8 or 9), and click **OK**.

4. Click **OK** again to close the driver window, and again to close your application's Print dialogue.

The document will be sent to the printer's hard disk but will not print until you request it.

PRINTING SECURE DOCUMENTS

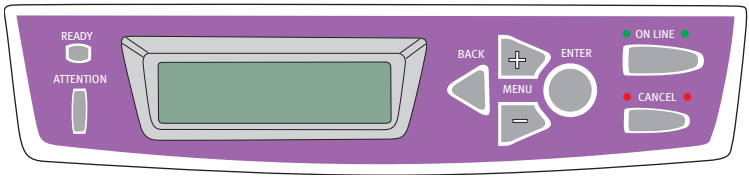
Secure documents stored on the printer's hard disk may be printed in either of two ways:

- From the printer's operator panel;

or...

- From your PC desktop, using the Storage Device Manager utility supplied on CD1 (Drivers and Utilities) with the printer.

Printing from the operator panel



1. Press the **+** button to access the Print Jobs menu.
2. Press **ENTER** to select this menu.
3. Use the **+**/**–** buttons to display the first digit of your PIN, and then press **ENTER** to enter this digit. Repeat this procedure for each of the four digits.
4. Use the **+**/**–** buttons to display each of your stored secure documents in turn, or to select all documents. When the required selection is displayed, press **ENTER** to print the document(s).
5. If you have only selected a single document to print, the display will prompt you for the number of collated copies you wish to print (default is 1 copy). Use the **+**/**–** buttons to choose the number of copies you want and press **ENTER** to begin printing.

   After a short pause the selected document will print. When printing is complete the document will automatically be deleted from the printer's hard disk.

Printing from your PC desktop

If you have installed the Storage Device Manager software from the supplied CD, you can also print secure documents directly from your PC desktop. You might do this, perhaps, when the office is empty and your confidential documents can safely be printed remotely.

1. From the Windows **Start** menu, run Storage Device Manager.
2. If necessary, use the **SDM Printer Discovery** window to find all available printers on your network or connected to your computer.
3. Select the icon for the printer holding your secure documents.
4. From the **Printers** menu, choose **HDD Print Jobs**.
5. In the HDD Print Jobs window, choose the **View User Jobs** option button and enter your PIN in the text box provided. After a short pause, a list of your print jobs will appear.
6. In the list of print jobs, select the job you wish to print and click **Print Job(s)**. If necessary, adjust the number of copies you want when the prompt appears.

   After a short pause the selected document will print. When printing is complete the document will automatically be deleted from the printer's hard disk.

PROOF AND PRINT FEATURE

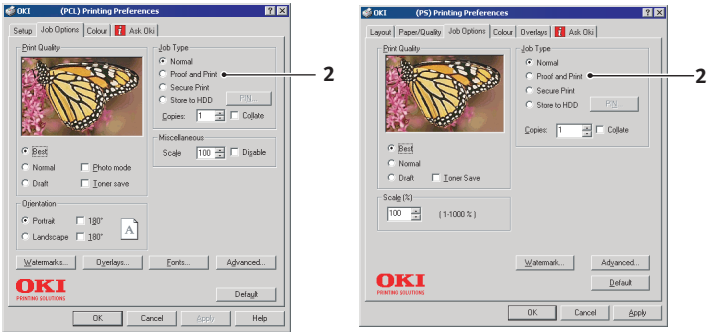
This feature allows you to send multiple copies of a document to print but only print the first copy so that you can check the output quality before printing the rest.

NOTE

This feature requires the optional internal hard disk in the printer.

SENDING THE DOCUMENT TO PRINT

1. From your application's Print dialogue, select the number of copies you need, and then click the **Properties** button.
2. In the driver window, on the **Job Options** tab and select **Proof and Print** (2).



3. In the small pop-up window which appears, enter a name for this print job (16 characters maximum) and a 4-digit PIN using any combination of digits from 0 to 7 (do not use 8 or 9), and click **OK**.
4. Click **OK** again to close the driver window, and again to close your application's Print dialogue.

The document will be sent to the printer's hard disk but only the first copy will print.

PRINTING THE REMAINING COPIES

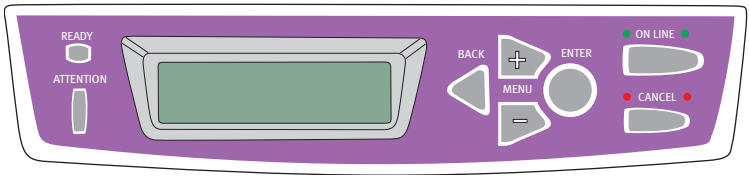
Documents stored on the printer's hard disk may be printed in either of two ways:

- From the printer's operator panel;

or...

- From your PC desktop, using the Storage Device Manager utility supplied on CD1 (Drivers and Utilities) with the printer.

Printing from the operator panel



1. Press the **+** button to access the Print Jobs menu.
2. Press **ENTER** to select this menu.
3. Use the **+**/– buttons to display the first digit of your PIN, and then press **ENTER** to enter this digit. Repeat this procedure for each of the four digits.
4. Use the **+**/– buttons to display each of your stored documents in turn. When the required selection is displayed, press **ENTER** to print the document(s).
5. Use the **+**/– buttons to choose the number of copies you want and press **ENTER** to begin printing.

   After a short pause while the selected document is processed it will begin printing. When printing is complete the document will automatically be deleted from the printer's hard disk.

Printing from your PC desktop

If you have installed the Storage Device Manager software from the supplied CD, you can also print the remaining copies directly from your PC desktop.

1. From the Windows **Start** menu, run Storage Device Manager.
2. If necessary, use the **SDM Printer Discovery** window to find all available printers on your network or connected to your computer.
3. Select the icon for the printer holding your secure documents.
4. From the **Printers** menu, choose **HDD Print Jobs**.
5. In the HDD Print Jobs window, choose the **View User Jobs** option button and enter your PIN in the text box provided. After a short pause, a list of your print jobs will appear.
6. In the list of print jobs, select the job you wish to print and click **Print Job(s)**. If necessary, adjust the number of copies you want when the prompt appears.

   After a short pause while the selected document is processed it will begin printing. When printing is complete the document will automatically be deleted from the printer's hard disk.

PERMANENT PRINT DOCUMENTS

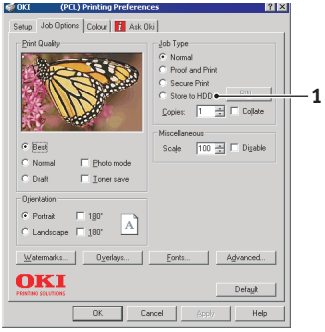
With this feature you can create standard documents that you often need to print and store them on your printer's internal hard disk. You can then print them at any time without having to send them again from your computer.

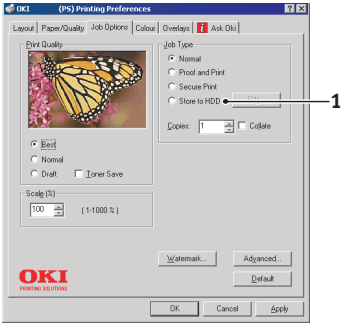
NOTE

This feature requires the optional internal hard disk.

SENDING THE DOCUMENT TO PRINT

1. From your application's Print dialogue, select your printing choices in the normal way, and then click the **Properties** button.
2. In the driver window, on the **Job Options** tab and select **Store to HDD** (1).





3. In the small pop-up window which appears, enter a name for this print job (16 characters maximum) and a 4-digit PIN using any combination of digits from 0 to 7 (do not use 8 or 9), and click **OK**.
4. Click **OK** again to close the driver window, and again to close your application's Print dialogue.

The document will be sent to the printer's hard disk but will not print.

PRINTING STORED DOCUMENTS

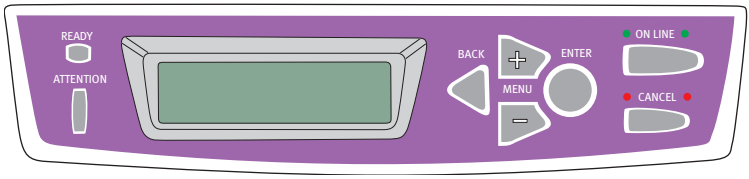
Documents stored on the printer's hard disk may be printed in either of two ways:

- From the printer's operator panel;

or...

- From your PC desktop, using the Storage Device Manager utility supplied on CD1 (Drivers and Utilities) with the printer.

Printing from the operator panel



1. Press the **+** button to access the Print Jobs menu.
2. Press **ENTER** to select this menu.
3. Use the **+**/– buttons to display the first digit of your PIN, and then press **ENTER** to enter this digit. Repeat this procedure for each of the four digits.
4. Use the **+**/– buttons to display each of your stored secure documents in turn, or to select all documents. When the required selection is displayed, press **ENTER** to print the document(s).
5. If you have only selected a single document to print, the display will prompt you for the number of collated copies you wish to print (default is 1 copy). Use the **+**/– buttons to choose the number of copies you want and press **ENTER** to begin printing.

   After a short pause the selected document will print.

Printing from your PC desktop

If you have installed the Storage Device Manager software from the supplied CD, you can also print permanently stored documents directly from your PC desktop.

1. From the Windows **Start** menu, run Storage Device Manager.
2. If necessary, use the **SDM Printer Discovery** window to find all available printers on your network or connected to your computer.
3. Select the icon for the printer holding your secure documents.
4. From the **Printers** menu, choose **HDD Print Jobs**.
5. In the HDD Print Jobs window, choose the **View User Jobs** option button and enter your PIN in the text box provided. After a short pause, a list of your print jobs will appear.
6. In the list of print jobs, select the job you wish to print and click **Print Job(s)**. If necessary, adjust the number of copies you want when the prompt appears.

   After a short pause the selected document will print.

WINDOWS 9X/ME DIFFERENCES

Screen presentations of Windows 9x/Me, together with some procedures, are significantly different from other versions of Windows (2000/XP etc.). This Chapter deals mainly with these variations. If necessary, reference should be made to the relevant subject or on-line help for more information.

PRINTER SETTINGS IN WINDOWS

PCL OR POSTSCRIPT

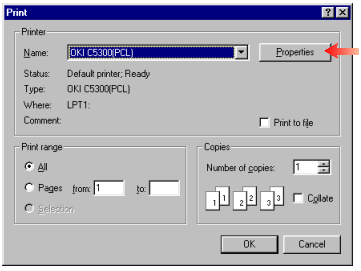
Two printer drivers are supplied with your printer: one for PCL emulation, and the other for PostScript 3 emulation. If you print mainly from general "Office" applications choose the PCL driver. For faster printing of PDF documents, choose PostScript. Also choose PostScript if you print mainly from professional DTP and graphics applications.

NOTE

With both drivers - if optional accessories such as a Hard Disk or Duplex unit are fitted, ensure that they are enabled in the Start/Settings/Printers/Properties/Device options dialogue.

PRINTING PREFERENCES IN WINDOWS APPLICATIONS

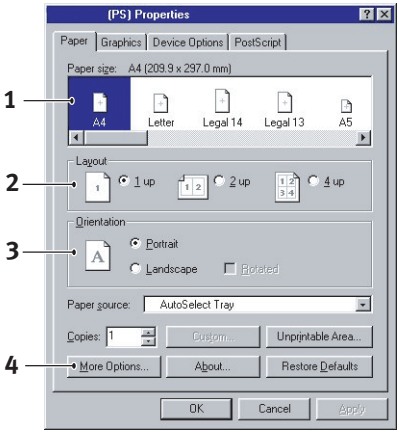
When you choose to print your document from a Windows application program a print dialogue box appears. This dialogue usually specifies the name of the printer on which you will print your document. Next to the printer name is a **Properties** button.



When you click **Properties** a new window opens which contains a short list of the printer settings available in the driver, which you can choose for this document.

The window which opens when you click **Properties** depends on which printer driver has been installed. The PostScript driver offers different choices to the PCL driver.

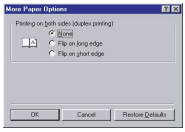
PostScript Emulation



1. Paper size should be the same as the page size of your document (unless you wish to scale the printout to fit another size), and should also be the same as the size of paper you will feed into the printer.

2. You can specify how many pages to print on a sheet. Pages will be scaled to fit the number you choose.

3. Page orientation sets portrait (tall) or landscape (wide) page orientation. Rotated turns the paper through 90 degrees anti-clockwise.

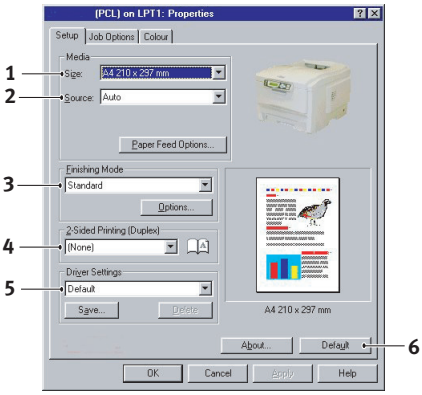


4. By selecting the More Options Tab you can flip the paper either on its long edge or short edge when printing double-sided pages (duplex unit required).

The printer driver contains extensive on-line help for these items to help you make the most appropriate choices.

PCL Emulation

When you click the **Properties** button from your application's Print dialogue, the driver window opens to allow you to specify your printing preferences for this document.



1. Paper size should be the same as the page size of your document (unless you wish to scale the printout to fit another size), and should also be the same as the size of paper you will feed into the printer.

2. You can choose the source of the paper to feed, which may be Tray 1 (the standard paper tray), Tray 2 (if you have the optional 2nd paper tray installed) or the multi-purpose feeder. You can also click on the appropriate part of the screen graphic to select your preferred tray.

3. A variety of document finishing options can be selected, such as normal one page per sheet, or N-up (where N can be any number up to 16) for printing scaled down pages at more than one page per sheet. Booklet printing prints two pages per sheet on each side of the paper so that when folded they make up a booklet. Booklet printing requires the duplex unit to be installed in your printer.

Poster printing will print large pages as tiles spread over multiple sheets.

4. For two-sided printing, you can choose to flip the page by the long edge or the short edge. Of course, this requires that a duplex unit be installed in your printer.

5. If you have changed some printing preferences before and saved them as a set, you can recall them to avoid having to set them individually each time you need them.

6. A single on-screen button restores the default settings.

SECURE PRINTING FEATURE

With this feature you can send confidential documents to print and have them stored in the printer until you are ready to print them. Documents sent in this way are protected by a PIN (personal identification number), which must be entered before they will print. This is useful when you need to print confidential documents on a printer which is shared with, or accessible to, other people.

NOTE

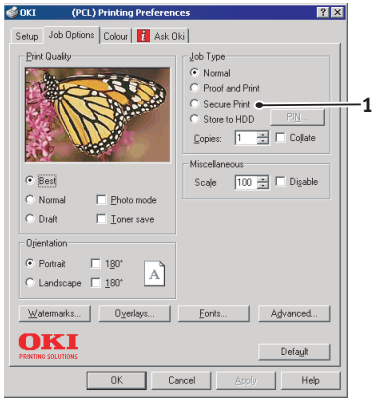
With both PS and PCL drivers, this feature requires the optional internal hard disk to be fitted and enabled in the Start/Settings/Printers/Properties/Device options dialogue.

SENDING THE DOCUMENT TO PRINT

From your application's Print dialogue, select your printing choices in the normal way, and then click the **Properties** button.

PCL Emulation

1. In the driver window, on the **Job Options** tab, select **Secure Print** (1).

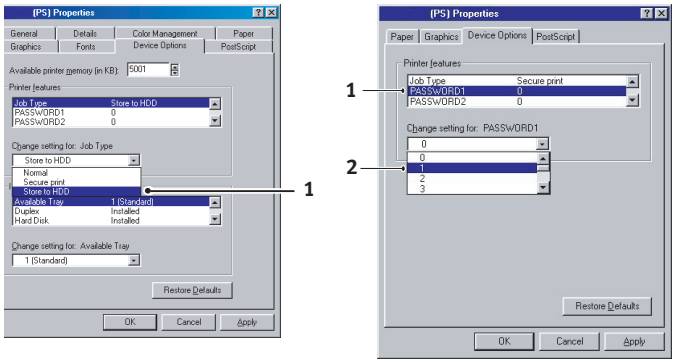


2. In the small pop-up window which appears, enter a name for this print job (16 characters maximum) and a 4-digit PIN using any combination of digits from 0 to 9, and click **OK**.

3. Click **OK** again to close the driver window, and again to close your application's Print dialogue.

PostScript Emulation

1. In the driver window, on the Device Options tab, select Secure Print (1).



2. In Printer Features, select Password 1 and select a number from 0 - 9 in the Change Setting for: drop-down box. Repeat for passwords 2 - 4.

3. Click OK again to close the driver window, and again to close your application's Print dialogue.

The document will be sent to the printer's hard disk, but will not print until you request it.

See Chapter "Printer Settings in Windows" for information on printing secure documents.

PROOF AND PRINT FEATURE

This feature allows you to send multiple copies of a document to print but only print the first copy so that you can check the output quality before printing the rest.

NOTE

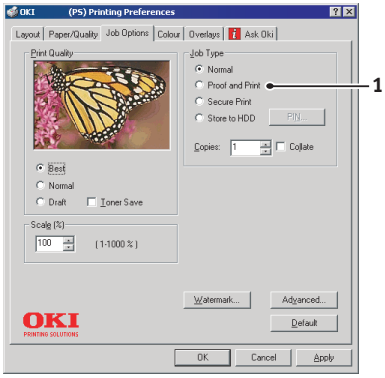
With both PS and PCL drivers, this feature requires the optional internal hard disk to be fitted and enabled in the Start/Settings/Printers/Properties/Device options dialogue.

SENDING THE DOCUMENT TO PRINT

From your application's Print dialogue, select the number of copies you need, and then click the **Properties** button.

1. In the driver window, on the **Job Options** tab, select **Proof and Print** (1).

2. In the small pop-up window which appears, enter a name for this print job (16 characters maximum) and a 4-digit PIN using any combination of digits from 0 to 9, and click **OK**.



3. Click **OK** again to close the driver window, and again to close your application's Print dialogue.

The document will be sent to the printer's hard disk but only the first copy will print.

See Chapter "Printer Settings in Windows" for information on printing the remaining copies.

STORE TO HARD DISK

With this feature you can create standard documents that you often need to print and store them on your printer's internal hard disk. You can then print them at any time without having to send them again from your computer.

NOTE

With both PS and PCL drivers, this feature requires the optional internal hard disk to be fitted and enabled in the Start/Settings/Printers/Properties/Device options dialogue.

SENDING THE DOCUMENT TO PRINT

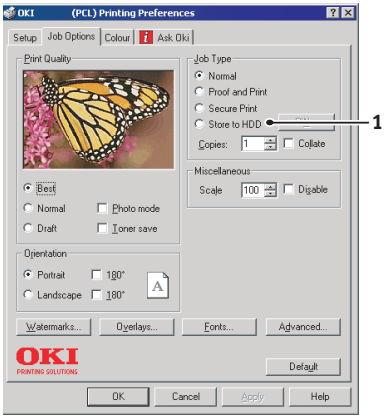
From your application's Print dialogue, select your printing choices in the normal way, and then click the **Properties** button.

PCL Emulation

1. In the driver window, on the **Job Options** tab, select **Store to HDD** (1).

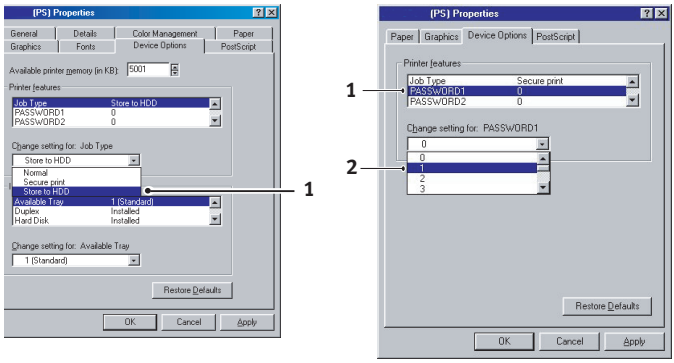
2. In the small pop-up window which appears, enter a name for this print job (16 characters maximum) and a 4-digit PIN using any combination of digits from 0 to 9, and click **OK**.

3. Click **OK** again to close the driver window, and again to close your application's Print dialogue.



PostScript Emulation

1. In the driver window, on the Device Options tab, select Store to HDD (1).



2. In Printer Features, select Password 1 (1 above) and select a number from 0 - 9 in the Change Setting for: drop-down box (2 above). Repeat for passwords 2 - 4.

NOTE

A "Password" is part of a PIN.

Password 1 is the first digit of a PIN, Password 2 is the second digit of a PIN etc.

---

3. Click OK again to close the driver window, and again to close your application's Print dialogue.

The document will be sent to the printer's hard disk but will not print.

See Chapter "Printer Settings in Windows" for information on printing stored documents.

COLOUR PRINTING

CHOOSING A COLOUR MATCHING METHOD

There is no correct way to achieve a good match between the document displayed on your monitor, and its printed equivalent. There are many factors involved in achieving accurate and reproducible colour.

The following guidelines may help in achieving good colour output from your printer. There are several suggested methods, depending on the type of document you are printing.

These suggestions are for guidance only. Your results may vary depending on the application from which you are printing. Some applications will override any colour matching settings in the printer driver without warning.

RGB or CMYK?

The guidelines for choosing a colour matching method makes distinctions between Red, Green, Blue (RGB) and Cyan, Magenta, Yellow, Black (CMYK).

Generally, most documents you print will be in RGB format. This is the most common, and if you do not know your document's colour mode, assume that it is RGB.

Typically CMYK documents are only supported in professional Desktop Publishing and Graphics applications.

MATCHING PHOTOGRAPHIC IMAGES

RGB only

Oki Colour Matching is a generally a good choice. Select a matching method appropriate to your monitor.

RGB or CMYK

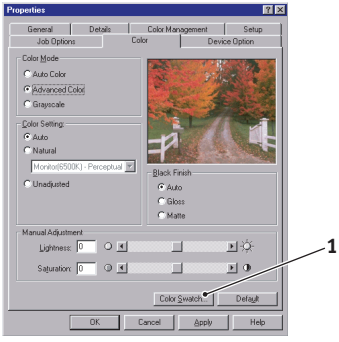
If you are printing photographic images from a graphics application such as Adobe Photoshop, you may be able to use Soft-Proofing to simulate the printed image on your monitor. To do this, you can use the ICC-Profiles provided by Oki, and then print using the ICC profiles as the Print Space (or Output space).

MATCHING SPECIFIC COLOURS

(For instance, a Company logo.)

RGB only

- Oki Colour Matching, and the sRGB setting (PCL or PS driver).
- PostScript Colour Matching using the Relative Colourimetric option.
- Use the Colour Swatch Utility (1) to print out a chart of RGB swatches and enter your desired RGB values in your application's colour picker.



PRINTING VIVID COLOURS

RGB only

- Use Oki Colour Matching, with either the Monitor 6500k Vivid, sRGB or Digital Camera settings (PCL or PostScript emulations).

PCL DRIVER

ACCESSING THE COLOUR MATCHING OPTIONS

The Colour Matching options in the printer driver can be used to help match your printed colours to the ones displayed on your monitor or from some other source, such as a digital camera.

The PCL driver's colour options are only designed to work with RGB data. If you are printing CMYK data, we recommend you use the PostScript driver.

To open colour matching options from the Windows Control Panel:

1. Open the **Printers** window. Right-click the printer name and choose **Properties**.
2. Select the **Colour** tab.

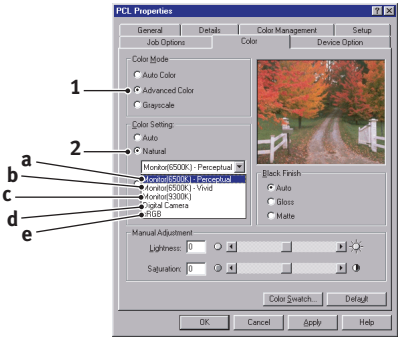
To open colour matching options from within a Windows application:

1. Choose **File—Print...** from the application's menu bar.
2. Click the **Properties** button next to the printer name.

SETTING THE COLOUR MATCHING OPTIONS

1. On the **Colour** tab select **Advanced** (1) colour mode.

2. Select **Manual** (2) for Colour Matching.



3. Choose from the available options:

(a) **Monitor (6500k) Perceptual**
Optimised for printing daylight photographs.

(b) **Monitor (6500k) Vivid**
Optimised for printing bright colours. Good for office graphics.

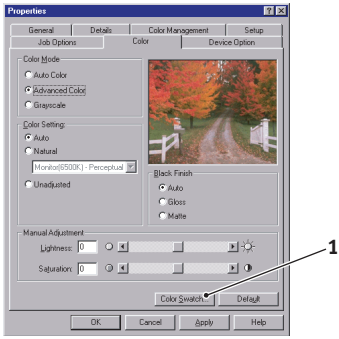
(c) **Monitor (9300k)**
Optimised for printing photographs when using a professional graphics monitor.

(d) **Digital Camera**
Optimised for printing photographs taken with a digital camera. This tends to produce prints with lighter and brighter colours. For some photographs, other settings may be better depending on the subjects and the conditions under which they were taken.

(e) **sRGB**
Optimised for matching specific colours, such as a company logo colour. The colours within the printer's colour gamut are printed without any modification, and only colours that fall outside the printable colours are modified.

USING THE COLOUR SWATCH FEATURE

The Colour Swatch function prints charts which contain a range of sample colours. Note that this is not the full range of colours that the printer can produce. Listed on each sample colour are the corresponding RGB (Red, Green, Blue) values. This can be used to pick specific colours in applications that allow you to choose your own RGB values. Simply click the Colour Swatch button (1) and choose from the options available.



An example of using the Colour Swatch function:

You wish to print a logo in a particular shade of red. The steps you would follow are:

1. Print a colour swatch, then select the shade of red that best suits your needs.

2. Take a note of the RGB value for the particular shade that you liked.

3. Using your program's colour picker, enter these same RGB values, and change the logo to that colour.

The RGB colour displayed on your monitor may not necessarily match what was printed on the colour swatch. If this is the case, it is probably due to the difference between how your monitor and printer reproduce colour. Here, it is unimportant since your primary objective is to print the required colour.

POSTSCRIPT DRIVER

COLOUR MATCHING OPTIONS

The PostScript driver offers several different methods of controlling the colour output of the printer.

Some of the colour matching options only work on certain types of data. The table below summarises the various options available, and what types of data they affect.

COLOUR MATCHING OPTION	RGB DATA	CMYK DATA
Oki Colour Matching	Yes	No
PostScript Colour Matching	Yes	Yes
CMYK Ink Simulation	No	Yes
Windows ICM Matching	Yes	No

Oki Colour Matching

This is Oki's proprietary colour matching system, and affects RGB data only.

- **Perceptual** settings are best for printing photographic images.
- **Vivid** or **Digital Camera** settings produce brightest colours.
- **sRGB** is the best choice for matching specific colours (such as printing logos).

Monitor (6500k) Perceptual

Optimised for printing photographs when using a monitor with a colour temperature of 6500K.

Monitor (6500k) Vivid

Optimised for printing bright colours when using a monitor with a colour temperature of 6500K. Good for office graphics and text.

Monitor (9300k)

Optimised for printing photographs when using a monitor with a colour temperature of 9300K.

Digital Camera

Optimised for printing photographs taken with a digital camera. This tends to produce prints with lighter and brighter colours. For some photographs, other settings may be better depending on the subjects and the conditions under which they were taken.

sRGB

Optimised for matching specific colours, such as a company logo colour.

The colours within the printer's colour gamut are printed without any modification, and only colours that fall outside the gamut (set of) printable colours are modified.

POSTSCRIPT COLOUR MATCHING

This uses PostScript Colour Rendering Dictionaries built into the printer, and affects both RGB and CMYK data.

Rendering Intents

When a document is printed, a conversion takes place from the document's colour space to the printer colour space. The rendering intents are essentially a set of rules that determine how this colour conversion takes place.

The rendering intents that the printer driver provides are listed below:

- **Perceptual**

  Best choice for printing photographs. Compresses the source gamut into the printer's gamut whilst maintaining the overall appearance of an image. This may change the overall appearance of an image as all the colours are shifted together.

- **Saturation**

  Best choice for printing bright and saturated colours, but less accurately matched. This makes it the recommended choice for graphs, charts, diagrams etc. Maps fully saturated colours in the source gamut to fully saturated colours in the printer's gamut.

- **Absolute Colourimetric**

Best for printing solid colours and tints, such as Company logos etc. Matches colours common to both devices exactly, and clips the "out of gamut" colours to their nearest printed equivalent. Tries to print white as it appears on screen. The white of a monitor is often very different from paper white, so this may result in colour casts, especially in the lighter areas of an image.

> **Relative Colourimetric**

Good for proofing CMYK colour images on a desktop printer. Much like Absolute Colourimetric, except that it scales the source white to the (usually) paper white. Unlike Absolute Colourimetric, this attempts to take the paper white into account.

CMYK INK SIMULATION

Affects CMYK data only.

This option simulates what the output will look like on a printing press using the ink types SWOP, Euroscale or Toyo. If using CMYK Ink Simulation, it is recommended that you switch off all other Printer Colour Matching. Select the No Colour Matching option under the Colour Match option in the printer driver.

WINDOWS ICM COLOUR MATCHING

Affects RGB data only.

ICM is the colour management system built into Windows.

Windows ICM uses ICC profiles for your monitor and printer; these profiles describe the colours that your device is capable of reproducing. ICC profiles can be associated with your printer via the Colour Management tab of the printer driver.

Depending on how you have installed the printer driver, the colour profiles may already be associated with the driver.

To associate ICC Colour Profiles with the printer driver:

1. Access the printer settings via the **Start** menu.
2. Right-click the printer name and choose **Properties**.
3. Click the Colour Management tab.

4. Under "Colour Profiles currently associated with this printer", you should see the names of profiles that match your printer model. If you do not see any profiles associated with the driver, click "Add…" and locate the ICC profiles for your printer.

Windows ICM uses the information in these profiles to convert colours in your documents to colours that the printer can reproduce. The way in which this conversion is performed can be controlled via the ICM Intent control in the printer driver.

OVERLAYS AND MACROS

NOTE

PostScript overlays are not available for Windows 95/98/Me.

CREATING PCL OVERLAYS

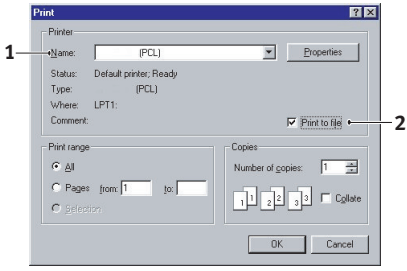
Three steps are required to create an overlay:

1. Create the form data using your own application software and print it to a printer (.PRN) file.
2. Use the Storage Device Manager utility software supplied on CD with your printer to create a "project file," import the .PRN file, and download the generated filter (.BIN) files to the printer.
3. Use downloaded files to define your overlay ready for use with any future document.

   When printing files to disk, do not select any special features, such as two-sided printing or multiple copies. These are not appropriate to macros, they apply only to your final documents.

Step 1: Creating the overlay image

1. Use your preferred application, perhaps a graphics program, to create the required image and save it.
2. Open your application's **Print...** dialogue.
3. Make sure that the selected printer name (1) is that of your PCL printer driver.
4. Select the **Print To File** (2) option.



5. Click on **Properties** and ensure that all driver settings are appropriate for the print job.

6. Click **OK**, and when prompted for a print file name, enter a meaningful name with the extension .PRN.

7. Close your application.

Step 2: Create and download macros

NOTE

Ensure that the Storage Device Manager has been installed (on the Printer Drivers CD, "Software Utilities").

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1. From the Windows **Start**/**Programs**/**Okidata** menu, start **Storage Device Manager** (SDM) and allow SDM to discover the printer.

2. Choose **Projects**→**New Project** to start a new project.

3. Choose **Projects**→**Filter Macro File**. The Filter Printer Patterns dialogue box appears. Make any adjustments in the settings that you need and then click **OK**.

   Example: If you create a black oval in MS Paint and leave all the colour command filters checked, the black oval will print as a black rectangle when the overlay is used. To maintain the oval shape, turn off (deselect) the "Configure Image Data," "Palette ID" and "Palette Control" filters.

4. Set the **Files of Type** drop-down list to **PRN Files (*.prn)**.

5. Navigate to the folder where the overlay .PRN files are stored and select one or more of these to include in your overlay set.

   You can have more than one macro file in a project. For example, one for top pages and another for continuation pages. Use standard Windows techniques (Shift or Ctrl keys) to select multiple files simultaneously if you need to.

6. Click **Open** to add these files to the current project. (You can also drag and drop files from Windows Explorer directly into the project window if you prefer.) When a message box appears confirming that a filter file has been created, click **OK** to clear the message.

7. The project window will display one .BIN file for each printer file added. *Make a careful note of the name and ID number for each of the files. You will need them later.*

If you wish to edit the names or ID numbers, double-click the file entry and edit the details. **Volume** details are as follows:

0 = printer's disk drive PCL partition;
1 = printer's disk drive Common partition;
%disk0% = printer's disk drive PostScript partition;
2 = flash memory PCL
%Flash0% = flash memory PostScript

NOTE

The names are case sensitive, and will be needed later exactly as they appear in this list.

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8. Choose **Projects→Save Project** and enter a meaningful name (e.g. "Letter Stationery") so that you can recognise it.

9. Choose **Projects→Send Project Files to Printer** to download the project to the printer.

10. When the message "Command Issued" appears confirming that the download is complete, click **OK** to clear the message.

Test printing the macro

1. Choose **Printers→Test Macro**.

2. In the Test Macro window, enter its ID number and click **OK**. After a short pause the printer will print the macro.

3. When each macro has been tested, click **Exit**.

4. Click the standard Windows **Close (X)** button, or choose **Projects→Exit** to close Storage Device Manager.

Step 3: Defining overlays

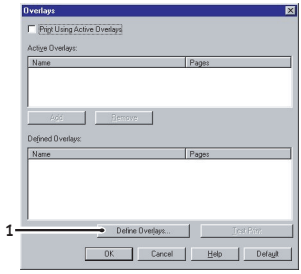
This is the final step before the new overlays are ready for use.

1. Open the **Printers** window via the **Start** menu or the Windows Control Panel.

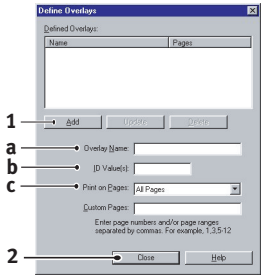
2. Right-click on the relevant PCL printer icon and choose **Printing Preferences** from the pop-up menu.

3. On the Job Options tab, click the **Overlay** button.

4. In the Overlay window, Click the **Define Overlays button** (1).



5. In the Define Overlays window, enter the **name** (a) and **ID** (b) of the required overlay, *as noted in step 2, para 7*, and define which **page(s)** (c) of your documents will use this overlay. Then click the **Add button** (1) to add this overlay to the list of defined overlays. Repeat for any other related overlays (this will create a "group" of overlays). When done, click the **Close button** (2) to close the window.



Remember that names and IDs of overlay files must be entered *exactly* as they appeared in the Storage Device Manager project window. Remember also that names are case sensitive.

If you forgot to note the overlay name or ID when you created them, you can find them using Storage Device Manager to view the project file, or the printer's Information Menu to print a file list and identify them from there.

The new overlays will now appear in the Defined Overlays list in the printer properties window.

6. When done, click **OK** to close the printing preferences window.

Your new overlays are now ready and available to be used for any future documents you wish.

INSTALLING UPGRADES

ADJUSTING WINDOWS PRINTER DRIVERS

Once your new upgrade has been installed, you may need to update the Windows printer driver so that the additional features are available to your Windows applications.

Remember that if your printer is shared between users on different computers, the driver must be adjusted on each user's machine.

The illustrations shown here are for Windows XP. Other Windows versions may appear slightly different, but the principles are the same.

PCL driver

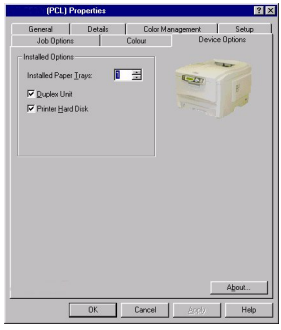
If you have installed a memory upgrade it is not necessary to change the PCL printer driver, and you can ignore this section.

If you have installed a duplex unit or hard disk, proceed as follows:

1. Open the Printers window via the **Start** Menu or from the Windows Control Panel.

2. Right-click the printer icon for this printer, and choose **Properties** from the pop-up menu.

3. On the **Device Options** tab, check the box for the upgrade you have just installed.



4. Click **OK** to close the properties window, and then close the Printers window.

PostScript driver

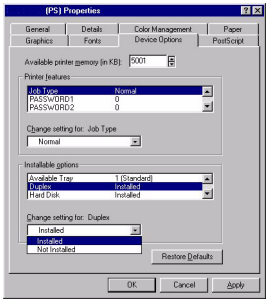
This driver must be adjusted for any upgrade just installed.

1. Open the Printers window via the **Start** Menu or from the Windows Control Panel.

2. Right-click the printer icon for this printer, and choose **Properties** from the pop-up menu.

3. On the Device Settings tab, select the upgrade you have just installed from the list of "Installable Options". Select "Installed" in the "Change Settings for:" box.

4. Click **OK** to close the Properties window, and then close the Printers window.



COLOUR PRINTING

The printer drivers supplied with your printer provide several controls for changing the colour output. For general use the automatic settings will suffice, providing reasonable default settings that will produce good results for most documents.

Many applications have their own colour settings, and these may override the settings in the printer driver. Please refer to the documentation for your software application for details on how that particular program's colour management functions.

FACTORS THAT AFFECT THE APPEARANCE OF PRINTS

If you wish to manually adjust the colour settings in your printer driver, please be aware that colour reproduction is a complex topic, and there are many factors to take into consideration. Some of the most important factors are listed below.

Differences between the range of colours a monitor or printer can reproduce

- Neither a printer nor a monitor is capable of reproducing the full range of colours visible to the human eye. Each device is restricted to a certain range of colours. In addition to this, a printer cannot reproduce all of the colours displayed on a monitor, and vice versa.
- Both devices use very different technologies to represent colour. A monitor uses Red, Green and Blue (RGB) phosphors (or LCDs), a printer uses Cyan, Magenta, Yellow and Black (CMYK) toner or ink.
- A monitor can display very vivid colours such as intense reds and blues and these cannot be easily produced on any printer using toner or ink. Similarly, there are certain colours, (some yellows for example), that can be printed, but cannot be displayed accurately on a monitor. This disparity between monitors and printers is often the main reason that printed colours do not match the colours displayed on screen.

Viewing conditions

A print can look very different under different lighting conditions. For example, the colours in a print may look different when

viewed standing next to a sunlit window, compared to how they look under standard office fluorescent lighting.

Printer driver colour settings

The driver settings for manual colour can change the appearance of a print. There are several options available to help match the printed colours with those displayed on screen.

Monitor settings

The brightness and contrast controls on your monitor can change how your document looks on-screen. Additionally, your monitor's colour temperature influences how "warm" or "cool" the colours look.

Several of the colour matching options make reference to your monitor's colour temperature. Many modern monitors allow the colour temperature to be adjusted using the monitor's control panel.

There are several settings found on a typical monitor:

- 5000k — Warmest; yellowish lighting, typically used in graphic art environments.
- 6500k — Cooler; approximates daylight conditions.
- 9300k — Cool; the default setting for many monitors and television sets.

(k = degrees Kelvin, a measurement of temperature.)

How your software application displays colour

Some graphics applications such as Corel Draw or Adobe Photoshop may display colour differently from "Office" applications such as Microsoft Word. Please see your application's on-line help or user manual for more information.

Paper type

The type of paper used can also significantly affect the printed colour. For example, a printout on recycled paper can look duller than one on specially formulated glossy paper.

TIPS FOR PRINTING IN COLOUR

Your printer driver contains several different ways to help match the colour on your screen to the colour produced by your printer. You will get best results by choosing a colour matching method appropriate to the type of document you are printing.

Please note that these tips are for guidance only. Your results may vary depending on the application from which you are printing. Some applications will override any colour matching settings in the printer driver without warning.

RGB OR CMYK?

The guidelines for choosing a colour matching method make a distinction between RGB (Red, Green, Blue) and CMYK (Cyan, Magenta, Yellow, Black).

RGB is the most common type of colour data and is common in Microsoft Office documents, photographs from scanners/digital cameras, web pages and most other general documents. If you do not know your document's colour mode, assume it is RGB.

CMYK documents are typically only supported in professional desktop publishing and graphics applications.

PCL DRIVER AND PCLXL DRIVER

The PCL and PCLXL drivers are designed to handle RGB data only. If you need to print CMYK documents, use the PostScript driver.

Printing photographic images

Select "Photo Enhance" option when printing photographic images.

Use the Monitor (6500k) Perceptual setting. If the colours look too dull, try the Monitor (6500k) Vivid or Digital Camera settings.

Printing from Microsoft Office applications

Use the Monitor (9300k) setting. This may help if you are having problems with specific colours from applications such as Microsoft Excel or Microsoft PowerPoint. If you are having problems with specific Office palette colours, the Colour Correct Utility may help.

Printing specific colours (for example a company logo)

Use the sRGB setting. If you are having problems with specific Office palette colours, the Colour Correct Utility or Colour Swatch Utility may help.

Adjusting the brightness or intensity of a print

If the print is too light/dark, you can use the Brightness control to adjust it.

If the colours are too intense/not intense enough, use the Saturation control.

Utilities you can use with the PCL or PCLXL driver

If you still have problems producing a good colour match, there are 2 utilities on your printer driver CD-ROM that can help:

- Colour Correct Utility for Windows: designed to help match specific Microsoft Office palette colours, or overall adjustments to RGB colour matching.
- Colour Swatch Utility for Windows: designed to help with printing specific colours. This can be used as a stand-alone utility, or it can be accessed from the PCL/PCLXL driver Colour tab.

POSTSCRIPT DRIVER

The PostScript driver is designed to work with either RGB or CMYK data.

Printing photographic images

RGB images: Select Oki Colour Matching and use the Monitor (6500k) Perceptual setting. If the colours look too dull, try the Monitor (6500k) Vivid or Digital Camera settings.

CMYK images: Select PostScript Colour Matching, and use the Perceptual setting.

Printing from Microsoft Office applications

RGB documents: Select Oki Colour Matching and use the Monitor (9300k) setting. This may help if you are having problems with specific colours from applications such as Microsoft Excel or Microsoft PowerPoint.

Printing specific colours (for example a company logo)

RGB documents: Select Oki Colour Matching and use the sRGB setting.

CMYK documents: Select PostScript Colour Matching and use the Relative Colorimetric setting.

Printing CMYK Vector Art (for example from Illustrator, Freehand, Corel Draw)

CMYK documents: Select PostScript Colour Matching and use the Relative Colorimetric setting.

Utilities you can use with the PostScript driver

If you still have problems producing a good colour match, there are 2 utilities on your printer driver CD-ROM that can help:

- Colour Correct Utility for Windows: designed to help match specific Microsoft Office palette colours, or overall adjustments to RGB colour matching.
- Gamma Utility: designed to allow overall adjustments to the colour output.

PCL DRIVER

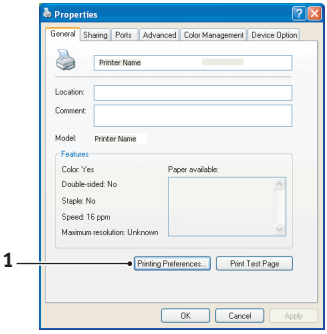
ACCESSING THE COLOUR MATCHING OPTIONS

The Colour Matching options in the printer driver can be used to help match your printed colours to the ones displayed on your monitor or from some other source, such as a digital camera.

The PCL driver's colour options are only designed to work with RGB data. If you are printing CMYK data, we recommend you use the PostScript driver.

To open colour matching options from the Windows Control Panel:

1. Open the Printers window (called "Printers and Faxes" in Windows XP).
2. Right-click the printer name and choose **Properties**.
3. Click the **Printing Preferences** button (1).



To open colour matching options from within a Windows application:

1. Choose **File→Print...** from the application's menu bar.
2. Click the **Properties** button next to the printer name.

SETTING THE COLOUR MATCHING OPTIONS

1. On the **Colour** tab select **Advanced** for colour matching.

2. Select **Manual** and choose from the available options:

(a) Monitor (6500k) Perceptual
Optimised for printing photographs. Colours are printed with emphasis on saturation.

(b) Monitor (6500k) Vivid
Optimised for printing photographs, but with even more saturated colours than the Monitor (6500k) Perceptual setting.

(c) Monitor (9300k)
Optimised for printing graphics from applications such as Microsoft Office. Colours are printed with emphasis on Lightness.

(d) Digital Camera
Optimised for printing photographs taken with a digital camera.

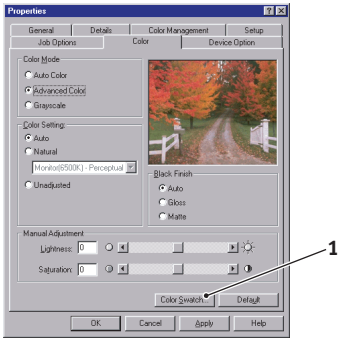
Your results will vary depending on the subject and the conditions under which the photograph was taken.

(e) sRGB
The printer will try to reproduce the sRGB colour space. This may be useful if colour matching from an sRGB input device such as a scanner or digital camera.

USING THE COLOUR SWATCH FEATURE

To use the Colour Swatch feature, you must install the Colour Swatch Utility. This is supplied on the CD-ROM that was supplied with your printer.

The colour swatch function prints charts which contain a range of sample colours. Note that this is not the full range of colours that the printer can produce. Listed on each sample colour are the corresponding RGB (Red, Green, Blue) values. This can be used to pick specific colours in applications that allow you to choose your own RGB values. Simply click the Colour Swatch button (1) and choose from the options available.



An example of using the colour swatch function:

You wish to print a logo in a particular shade of red. The steps you would follow are:

1. Print a colour swatch, then select the shade of red that best suits your needs.

2. Take a note of the RGB value for the particular shade that you liked.

3. Using your program's colour picker, enter these same RGB values, and change the logo to that colour.

The RGB colour displayed on your monitor may not necessarily match what was printed on the colour swatch. If this is the case, it is probably due to the difference between how your monitor and printer reproduce colour. Here, it is unimportant since your primary objective is to print the required colour.

POSTSCRIPT DRIVER

COLOUR MATCHING OPTIONS

The PostScript driver offers several different methods of controlling the colour output of the printer.

Some of the colour matching options only work on certain types of data. The table below summarises the various options available, and what types of data they affect.

COLOUR MATCHING OPTION	RGB DATA	CMYK DATA
Oki Colour Matching	Yes	No
PostScript Colour Matching	Yes	Yes
CMYK Ink Simulation	No	Yes
Windows ICM Matching[1]	Yes	No
Using ICC Profiles[2]	Yes	No

1. Not Windows NT 4.
2. Not Windows 95/98/Me

Oki Colour Matching

This is Oki's proprietary colour matching system, and affects RGB data only.

- **Perceptual** settings are best for printing photographic images.
- **Vivid** or **Digital Camera** settings produce brightest colours.
- **sRGB** is the best choice for matching specific colours (such as printing logos).

Monitor (6500k) Perceptual

Optimised for printing photographs. Colours are printed with emphasis on saturation.

Monitor (6500k) Vivid

Optimised for printing photographs, but with even more saturated colours than the Monitor (6500k) Perceptual setting.

Monitor (9300k)

Optimised for printing graphics from applications such as Microsoft Office. Colours are printed with emphasis on Lightness.

Digital Camera

Optimised for printing photographs taken with a digital camera.

Your results will vary depending on the subject and the conditions under which the photograph was taken.

sRGB

The printer will try to reproduce the sRGB colour space. This may be useful if colour matching from an sRGB input device such as a scanner or digital camera.

POSTSCRIPT COLOUR MATCHING

This uses PostScript Colour Rendering Dictionaries built into the printer, and affects both RGB and CMYK data.

Rendering Intents

When a document is printed, a conversion takes place from the document's colour space to the printer colour space. The rendering intents are essentially a set of rules that determine how this colour conversion takes place.

The rendering intents that the printer driver provides are listed below:

- Perceptual

  Best choice for printing photographs. Compresses the source gamut into the printer's gamut whilst maintaining the overall appearance of an image. This may change the overall appearance of an image as all the colours are shifted together.

- Saturation

  Best choice for printing bright and saturated colours, but less accurately matched. This makes it the recommended choice for graphs, charts, diagrams etc. Maps fully saturated colours in the source gamut to fully saturated colours in the printer’s gamut.

- Absolute Colourimetric

  Best for printing solid colours and tints, such as Company logos etc. Matches colours common to both devices exactly, and clips the out of gamut colours to their nearest printed equivalent. Tries to print white as it appears on screen. The white of a monitor is often very different from paper white, so this may result in colour casts, especially in the lighter areas of an image.

- Relative Colourimetric

  Good for proofing CMYK colour images on a desktop printer. Much like Absolute Colourimetric, except that it scales the source white to the (usually) paper white. Unlike Absolute Colourimetric, this attempts to take the paper white into account.

CMYK INK SIMULATION

Affects CMYK data only.

This option simulates what the output will look like on a printing press using the ink types SWOP, Euroscale or Toyo. If using CMYK Ink Simulation, it is recommended that you switch off all other Printer Colour Matching. Select the No Colour Matching option under the Colour Match option in the printer driver.

WINDOWS ICM COLOUR MATCHING

Windows 98, Me, 2000 and XP only. Affects RGB data only.

ICM is the colour management system built into Windows.

Windows ICM uses ICC profiles for your monitor and printer; these profiles describe the colours that your device is capable of reproducing. ICC profiles can be associated with your printer via the Colour Management tab of the printer driver.

Depending on how you have installed the printer driver, the colour profiles may already be associated with the driver.

To associate ICC colour profiles with the printer driver:

1. Access the printer settings via the **Start** menu.
2. Right-click the printer name and choose **Properties**.
3. Click the **Colour Management** tab.
4. Under "Colour Profiles currently associated with this printer", you should see the names of profiles that match your printer model. If you do not see any profiles associated with the driver, click "Add…" and locate the ICC profiles for your printer.

Windows ICM uses the information in these profiles to convert colours in your documents to colours that the printer can reproduce. The way in which this conversion is performed can be controlled via the ICM Intent control in the printer driver.

USING ICC PROFILES

Windows 2000 and Windows XP. Affects RGB data only.

This provides a method of matching RGB colours similar to Windows ICM matching. The main advantage it has over Windows ICM colour matching is that it provides a method of printing using both input and output profiles. Windows ICM matching only allows output profiles to be chosen.

Input profiles provide information about the colour in the original device that was used to capture or display the image data. For example, an input device could be a scanner, digital camera or monitor.

Output profiles provide information about the device to which you are printing.

The "Using ICC Profiles" function allows both an input profile (e.g. digital camera), and an output profile (e.g. your printer) to be selected. It uses both these profiles to generate a CRD (Colour Rendering Dictionary), and this is used to match the colours as closely as possible.

This feature may not work for all application programs. However, many professional graphics applications offer a similar feature in their print settings, with the ability to choose a source (input) colour space, and a print (output) colour space.

USING THE COLOUR CORRECT UTILITY

The Oki Colour Correct Utility is provided on your printer driver CD-ROM. You must install it separately since it is not installed along with the printer driver.

The Colour Correct utility has the following features:

- Microsoft Office palette colours can be individually adjusted. This is useful if you want to change how a specific colour is printed.
- Colours can be adjusted by changing Hue, Saturation and Gamma. This is useful if you wish to change the overall colour output.

Once these colour adjustments have been made, the new settings can be selected from the printer driver Colour tab.

To select adjustments made with the Colour Correct Utility:

1. From your application program, click **File** and point to **Print**.
2. Click **Properties**. This displays the printer driver options.
3. Click the **Colour** tab.
4. Click **Advanced Colour**.
5. Click **User Defined**.

Select the colour adjustment you made with the Colour Correct Utility.

MENU FUNCTIONS

This sections lists the menus accessed via the controls on the printer's operator panel and displayed in the LCD window.

It should be noted that many of these settings can be, and often are, overridden by settings in the Windows printer drivers. However, several of the driver settings can be left at "Printer Setting", which will then default to the settings entered in these printer menus.

Factory default settings are shown in **bold type** in the following tables.

In the normal operating condition, known as "standby," the printer's LCD window will show "ONLINE." In this condition, to enter the menu system, press the **+**/**–** keys on the operator panel to move up and down through the list of menus until the menu you wish to view is displayed. Then proceed as follows:

1. Press **ENTER** to enter the menu.
2. Use the **+**/**–** keys to move up and down through the items in the menu. When the item you want to change is displayed, press **ENTER** to edit that item. An asterisk (*) appears next to the setting currently in effect.
3. Use the **+**/**–** keys to move up and down through the available settings for this item, and press **ENTER** when the setting you want is displayed. An asterisk (*) will appear next to the setting, indicating that this setting is now in effect.
4. Press **BACK** to move back to the list of menu items.
5. Do one of the following:

   - Press **BACK** again to move up to the list of menus;

   or…

   - Press **ON LINE** to exit from the menu system and return to standby.

PRINT JOBS MENU

This menu only appears when the hard disk drive is installed. It is used for printing of documents stored on the internal hard disk. These will be stored using either the secure printing feature or the proof and print feature. Please refer to these features elsewhere in this manual for instructions on how to use.

You will be prompted for your password or personal identification number (PIN). The **+**/– keys are used to enter each digit and the **ENTER** key to advance from one digit to the next.

INFORMATION MENU

This menu provides a quick method of listing various items stored within the printer.

INFORMATION MENU		
ITEM	**ACTION**	**EXPLANATION**
PRINT MENU MAP	EXECUTE	Prints complete menu listing with current settings shown.
PRINT FILE LIST	EXECUTE	Prints a list of overlays, macros, fonts and other files stored on the printer's hard disk drive (if installed).
PRINT PCL FONT	EXECUTE	Prints complete list of all internal PCL fonts plus those stored in ROM (slot 0), flash memory and in hard disk (if installed).
PRINT PSE FONT	EXECUTE	Prints complete list of all internal PostScript emulation fonts.
PRINT PPR FONT	EXECUTE	Prints complete list of all internal IBM ProPrinter III XL emulation fonts, including any downloaded to flash memory or hard disk.
PRINT FX FONT	EXECUTE	Prints complete list of all internal Epson FX emulation fonts, including any downloaded to flash memory or hard disk.
DEMO1	EXECUTE	Prints demonstration page containing graphics and text in colour and monochrome.
PRINT ERROR LOG	EXECUTE	Prints a list of errors encountered by the printer.

SHUTDOWN MENU

This menu only appears if the hard disk drive is installed. **This item should always be selected before switching the printer off, to ensure that no hard disk data is lost.**

SHUTDOWN MENU		
ITEM	**SETTINGS**	**EXPLANATION**
SHUTDOWN START	EXECUTE	Performs controlled shutdown of the printer, ensuring that all files on the internal hard disk are closed before power is turned off. Only power the printer off when the display indicates that shutdown is complete.

PRINT MENU

This menu provides adjustment of various print job related functions.

PRINT MENU		
ITEM	**SETTINGS**	**EXPLANATION**
COPIES	**1**-999	Enter the number of copies of a document to be printed from 1 to 999.
DUPLEX	ON/**OFF**	Turns the duplex (2-sided) printing function on or off if this feature is installed.
PAPER FEED	**TRAY1** TRAY2 MP TRAY	Selects the default tray for paper feed, Tray 1 (upper), Tray 2 (lower, if installed) or MP Tray (multi purpose tray).
AUTO TRAY SWITCH	**ON** OFF	If two trays contain identical paper, the printer can switch to an alternative source when the current tray runs out in the middle of a print job.
TRAY SEQUENCE	**DOWN** UP PAPER FEED	Determines tray sequence order when automatically switching.

PRINT MENU		
ITEM	**SETTINGS**	**EXPLANATION**
MP TRAY USAGE	**DO NOT USE** WHEN MISMATCH	If a document to be printed demands a paper size not installed in the selected tray, the printer can automatically feed from the multi purpose tray instead. If this function is not enabled, the printer will stop and request the correct size of paper to be loaded.
MEDIA CHECK	**ENABLE** DISABLE	Determines whether the printer check the size of paper loaded matches that required for the document sent to print.
RESOLUTION	**600x1200DPI** 600DPI	Sets the default resolution for printing (dots per inch). 600x1200DPI uses more memory and requires more time to process, but prints at a higher quality.
TONER SAVE MODE	**OFF** ON	Reduces the amount of toner used for imaging. Toner saving gives lighter prints but is more economical.

PRINT MENU		
ITEM	**SETTINGS**	**EXPLANATION**
MONO-PRINT SPEED	AUTO SPEED	If the first page of a print job is black and white, the printer runs at 20ppm (pages per minute). When a colour page is detected the printer slows down to 16ppm for the rest of that job.
	MONO 24PPM	This setting operates in the same way as AUTO SPEED, except that the printer runs at 24ppm until a colour page is detected. To achieve this speed the printer requires an additional 10 – 20 seconds to warm up and 30 –60 seconds to cool down when switching to 16ppm for colour pages. This setting is therefore most appropriate when the majority of print jobs are entirely black and white.
	COLOUR SPEED	The printer runs at 16ppm for all print jobs. This setting is most appropriate when the majority of print jobs are in colour.
	MIXED SPEED	The printer automatically switches between 16ppm for each colour page and 20ppm for each black and white page. When black and white pages are printed, the 3 colour drums are automatically lifted to maximize their working life. This operation imposes a 10 – 20 second delay each time the printer switches between colour and black and white printing. However, the 30 –60 second cool down delay described for MONO 24ppm is avoided by limiting mono speed to 20ppm. This setting may be preferred for mostly black and white printing with some colour pages, or where most print jobs are entirely colour or entirely black and white.
ORIENTATION	**PORTRAIT** LANDSCAPE	Selects default page orientation between portrait (tall) and landscape (wide).

PRINT MENU		
ITEM	**SETTINGS**	**EXPLANATION**
LINES PER PAGE	5-**64**-128	Sets the number of lines of text per page when raw text is received from systems other than Windows. The default for A4 portrait is 65, and for Letter is 60.
EDIT SIZE	**CASSETTE SIZE** LETTER EXECUTIVE LEGAL14 LEGAL13.5 LEGAL13 A4 / A5 / A6 / B5 CUSTOM COM-9 ENVELOPE COM-10 ENVELOPE MONARCH ENV DL ENVELOPE C5 ENVELOPE	Sets the size of the printable page area to match the size of paper in use. This is not the same as the physical paper size, which is always slightly larger. For dimensions of physical page sizes, see "Paper Recommendations" section in this guide.

MEDIA MENU

This menu provides adjustment to suit a wide range of print media.

MEDIA MENU ITEM	SETTINGS	EXPLANATION
TRAY1 PAPERSIZE	**A4** / A5 / A6 / B5 LEGAL14 LEGAL13.5 LEGAL13 LETTER EXECUTIVE CUSTOM	Selects the size of paper loaded in Tray 1 (upper tray if both trays installed). For CUSTOM setting see X-DIMENSION and Y-DIMENSION later in this table.
TRAY1 MEDIATYPE	**PLAIN** LETTERHEAD BOND RECYCLED ROUGH	Selects the type of media loaded in this tray. This will help the printer to adjust its internal operating parameters, such as engine speed and fusing temperature, to better accommodate the media to be fed. For example, letterhead may benefit from a slightly lower fusing temperature to ensure that its ink does not offset.
TRAY1 MEDIAWEIGHT	LIGHT (64~74g/m²) **MEDIUM (75~90g/m²)** HEAVY (91~105g/m²)	Adjusts the printer for the weight of paper stock loaded in thus tray.
TRAY2 PAPERSIZE	**A4** / A5 / B5 / LEGAL14 LEGAL13.5 LEGAL13 LETTER EXECUTIVE CUSTOM	Selects the size of paper loaded in Tray 2 (lower) if installed. For CUSTOM setting see X-DIMENSION and Y-DIMENSION later in this table.
TRAY2 MEDIATYPE	**PLAIN** LETTERHEAD BOND RECYCLED ROUGH	Selects the type of media loaded in this tray.

MEDIA MENU		
ITEM	**SETTINGS**	**EXPLANATION**
TRAY2 MEDIAWEIGHT	LIGHT (64-74g/m²) **MEDIUM (75-90g/m²)** HEAVY (91-176g/m²)	Adjusts the printer for the weight of paper stock loaded in thus tray.
MPT PAPERSIZE	LETTER EXECUTIVE LEGAL14 LEGAL13.5 LEGAL13 **A4** / A5 / A6 / B5 CUSTOM COM-9 ENVELOPE COM-10 ENVELOPE MONARCH ENV DL ENVELOPE C5 ENVELOPE	Selects the size of paper to be fed from the multi purpose tray. For CUSTOM setting see X-DIMENSION and Y-DIMENSION later in this table.
MPT PAPERTYPE	**PLAIN** LETTERHEAD TRANSPARENCY LABELS BOND RECYCLED CARD STOCK ROUGH GLOSSY	Selects the type of media to be fed from the multi purpose tray so that the printer can adjust its internal parameters to better accommodate the selected type of media.
MPT MEDIAWEIGHT	**MEDIUM (75-90g/m²)** HEAVY (91-120g/m²) ULTRA HEAVY (121-203g/m²)	Selects the media weight to be fed from the multi purpose tray.
UNIT OF MEASURE	**MILLIM**ETRE INCH	Selects the unit of measure for the next two items.
X-DIMENSION	100-**210**-216 MILLIMETRE	Selects the width of paper defined by the “CUSTOM” settings referred to in the foregoing PAPER SIZE settings.

MEDIA MENU		
ITEM	**SETTINGS**	**EXPLANATION**
Y-DIMENSION	148-**297**-1200 MILLIMETRE	Selects the length of paper defined by the "Custom" settings referred to in the foregoing PAPER SIZE settings. Note that media of up to 1200mm in length can be fed from the multi purpose tray for banner printing.

COLOUR MENU

The printer automatically adjusts colour balance and density at appropriate intervals, optimising the printed output for bright white paper viewed in natural daylight conditions. The items on this menu provide a means of changing the default settings for special or particularly difficult print jobs. Settings revert to their default values when the next print job is complete.

COLOUR MENU		
ITEM	**SETTINGS**	**EXPLANATION**
DENSITY CONTROL	**AUTO** MANUAL	If set to AUTO, image density will be automatically adjusted at power on, when a new image drum or toner cartridge is installed, and at intervals of 100, 300 and 500 drum counts. If a 500 drum count interval occurs during a print job it will occur at the end of that job, and will take up to 55 seconds. If set to manual, this adjustment will only be performed when initiated by the next menu item.
AUTO DENSITY	EXECUTE	Selecting this will perform the auto density set up immediately.
COLOUR TUNING	PRINT PATTERN	Selecting this item prints the colour tuning pattern to help you adjust the colour balance.
C HIGHLIGHT	-3~**0**~+3	Adjusts image density for each colour component (cyan, magenta, yellow and black). Normal setting is 0.
C MID-TONE	-3~**0**~+3	
C DARK	-3~**0**~+3	
M HIGHLIGHT	-3~**0**~+3	
M MID-TONE	-3~**0**~+3	
M DARK	-3~**0**~+3	
Y HIGHLIGHT	-3~**0**~+3	
Y MID-TONE	-3~**0**~+3	
Y DARK	-3~**0**~+3	
K HIGHLIGHT	-3~**0**~+3	
K MID-TONE	-3~**0**~+3	
K DARK	-3~**0**~+3	

COLOUR MENU		
ITEM	**SETTINGS**	**EXPLANATION**
C DARKNESS M DARKNESS Y DARKNESS K DARKNESS	-3~**0**~+3 -3~**0**~+3 -3~**0**~+3 -3~**0**~+3	Adjusts darkness of each colour component (cyan, magenta, yellow and black). Normal setting is 0.
AUTO REGISTRATION	EXECUTE	Performs automatic colour registration adjustment. Normally this is done on power on and when the top cover is opened and then closed. This process accurately aligns the cyan, magenta and yellow images to the black image.
C REG FINE ADJUST M REG FINE ADJUST Y REG FINE ADJUST	-3~0~+3 -3~**0**~+3 -3~**0**~+3	Performs fine adjustment of image timing in relation to the black image component.
INK SIMULATION	**OFF** SWOP EUROSCALE JAPAN	Selects from a range of industry standard colour swatches.
UCR	**LOW** MEDIUM HIGH	
CMY 100% DENSITY	**DISABLE** ENABLE	When enabled, black areas are produced using 100% C, M, and Y instead of black. This results in a glossier finish.

SYSTEM CONFIGURATION MENU

This menu adjusts general printer settings to suit the way you prefer to work.

SYSTEM CONFIGURATION MENU		
ITEMS	**SETTINGS**	**EXPLANATION**
POW SAVE TIME	5 15 30 **60** 240	Adjusts the idling time before the printer automatically switches into power saving mode. In this mode power consumption is reduced to a low level required to just keep the printer operating and ready to receive data. When a job is sent the printer will require a warm-up time of up to 1 minute before printing can begin.
PERSONALITY	**AUTO** PCL IBM PPR III XL EPSON FX PS3 EMULATION	This item selects which industry standard emulation your printer should use. When set to AUTO, incoming data is examined and the correct emulation is automatically selected each time a print job is received.
USB PS PROTOCOL	**RAW** ASCII	Selects PostScript data format for USB port.
NET PS PROTOCOL	RAW ASCII	Selects PostScript data format for network port.
CLEARABLE WARNING	**ON** JOB	When ON, non-critical warnings, such as requests for a different paper size, can be cleared by pressing the **ON LINE** button. When set to JOB, they are cleared when the print job resumes.
AUTO CONTINUE	ON **OFF**	Determines whether or not the printer will automatically recover from a memory overflow condition.
MANUAL TIMEOUT	OFF 30 **60**	Specifies how many seconds the printer will wait for paper to be fed before cancelling the job.

SYSTEM CONFIGURATION MENU		
ITEMS	**SETTINGS**	**EXPLANATION**
WAIT TIMEOUT	5~**40**~300	Specifies how many seconds the printer will wait when received data pauses before forcing a page eject. In PostScript Emulation mode the job will be cancelled if timeout occurs.
LOW TONER	**CONTINUE** STOP	Specifies whether the printer should continue printing even after a low toner condition is detected.
JAM RECOVERY	**ON** OFF	Specifies whether the printer should perform jam recovery after a paper jam has occurred. If ON, the printer will attempt to print again any pages lost due to a paper jam once the jam has been cleared.
ERROR REPORT	ON **OFF**	If ON, the printer will print error details when a PostScript Emulation error occurs.
LANGUAGE	**English** German French Italian Spanish Swedish Norwegian Danish Dutch Turkish Portuguese Polish Russian Greek	Sets the language used for the display window and printed reports.

PCL EMULATION

This menu controls settings effective when the printer is operating in PCL emulation mode.

PCL EMULATION		
ITEM	**SETTINGS**	**EXPLANATION**
Font Source	**RESIDENT** / DIMM0 / DIMM1 / DOWNLOADED	Specifies the location of the PCL default font. Normally this will be INTERNAL unless additional fonts are installed in the expansion ROM slot or additional fonts have been downloaded to RAM as permanent fonts.
FONT No.	**I000** / C001 / S001	Sets the current default font number from the currently selected source, which could be internal (I), ROM slot (C) or downloaded (S).
FONT PITCH	0.44~**10.00**~99.99	Sets the character width of the default font in characters per inch (CPI). This is only available when the selected font is fixed width and scalable.
FONT HEIGHT	4.00~12.00~999.75	Point size of selected default font.

PCL EMULATION		
ITEM	**SETTINGS**	**EXPLANATION**
SYMBOL SET	**PC-8** / PC-8 Dan/Nor / PC-8 TK / PC-775 / PC-850 / PC-852 / PC-855 / PC-857 TK / PC-858 / PC-866 / PC-869 / PC-1004 / Pi Font / Plska Mazvia / PS Math / PS Text / Roman-8 / Roman-9 / Roman Ext / Serbo Croat1 / Serbo Croat2 / Spanish / Ukrainian / VN Int'l / VN Math / VN US / Win 3.0 / Win 3.1 Blt / Win 3.1 Cyr / Win 3.1 Grk / Win 3.1 Heb / Win 3.1 L1 / Win 3.1 L2 / Win 3.1 L5 / Wingdings / Dingbats MS / Symbol / OCR-A / OCR-B / HP ZIP / USPSFIM / USPSSTP / ISO Swedish1 / ISO Swedish2 / ISO Swedish3 / ISO-2 IRV / ISO-4 UK / ISO-6 ASC / ISO-10 S/F / ISO-11 Swe / ISO-14 JASC / ISO-15 Ita / ISO-16 Por / ISO-17 Spa / ISO-21 Ger / ISO-25 Fre / ISO-57 Chi / ISO-60 Nor / ISO-61 Nor / ISO-69 Fre / ISO-84 Por / ISO-85 Spa Kamenicky / Legal	PCL symbol set. If the font source and number are changed to one which does not support the selected symbol set, this must be changed to an available symbol set for that font.

PCL EMULATION		
ITEM	**SETTINGS**	**EXPLANATION**
SYMBOL SET (continued)	Math-8 / MC Text / MS Publish / PC Ext D/N / PC Ext US / PC Set1 / PC Set2 D/N / PC Set2 US / USPSZIP / Bulgarian / CWI Hung / DeskTop / German / Greek-437 / Greek-437 Cy / Greek-928 / Hebrew NC / Hebrew OC / IBM-437 / IBM-850 / IBM-860 / IBM-863 / IBM-865 / ISO Dutch / ISO L1 / ISO L2 / ISO L5 / ISO L6 / ISO L9	
A4 PRINT WIDTH	**78 COLUMN** 80 COLUMN	Sets the number of columns subject to Auto LF with A4 paper in PCL. This is the value when Auto CR/LF Mode is set to OFF with the 10CPI character.
WHITE PAGE SKIP	**OFF** / ON	Selects whether blank pages are printed or not.
CR FUNCTION	**CR** / CR+LF	Selects whether a received carriage return character (0Dh) also causes a line feed.
LF FUNCTION	**LF** / LF+CR	Selects whether a received line feed character (0Ah) also causes a carriage return.
PRINT MARGIN	NORMAL 1/5 INCH 1/6 INCH	Sets the non-printable page area. NORMAL is PCL compatible.
TRUE BLACK	**OFF** / ON	Selects whether black image data is printed using black toner (ON) or 100% CMY (OFF). (Valid in PCL emulation mode only.)

PARALLEL MENU

This menu controls the operation of the printer's Centronics compatible (IEEE-1284) data interface.

PARALLEL MENU		
ITEM	**SETTINGS**	**EXPLANATION**
PARALLEL	**ENABLE** / DISABLE	Enables or disables operation of this port.
BI-DIRECTION	**ENABLE** / DISABLE	Enables or disables bidirectional functionality of this port.
ECP	**ENABLE** / DISABLE	Enables or disables ECP mode.
ACK WIDTH	**NARROW** MEDIUM WIDE	Sets width of ACK signal in compatible receiving to 0.5µS, 1.0µS or 3.0µS.
ACK/BUSY TIMING	**ACK IN BUSY** ACK WHILE BUSY	Sets the order in which the BUSY signal is output. For ACK IN BUSY, BUSY goes low at end of ACK pulse. For ACK WHILE BUSY, BUSY goes low at centre of ACK pulse.
I-PRIME	3 MICRO SEC 50 MICRO SEC **DISABLE**	Sets time to enable/disable the I-PRIME signal. Can be enabled with 3µS or 50µS nInit signal, or disabled completely.

USB MENU

This menu controls the operation of the printer's USB data interface.

USB MENU		
ITEM	**SETTINGS**	**EXPLANATION**
USB	**ENABLE** / DISABLE	Enables or disables operation of this port.
VERSION	2.0	Selects USB version for compatibility.
SOFT RESET	ENABLE / **DISABLE**	Enables or disables the SOFT RESET command.

NETWORK MENU

This menu controls the operation of the printer's 10Base-T/ 100Base-TX network interface.

NETWORK MENU		
ITEM	**SETTINGS**	**EXPLANATION**
TCP/IP	**ENABLE** / DISABLE	Enables or disables this network protocol.
NETBEUI	**ENABLE** / DISABLE	Enables or disables this network protocol.
NETWARE	**ENABLE** / DISABLE	Enables or disables this network protocol.
ETHERTALK	**ENABLE** / DISABLE	Enables or disables this network protocol.
FRAME TYPE	AUTO / 802.2 / 802.3 / ETHERNET II / SNAP	Selects the Ethernet MAC layer frame type.
IP ADDRESS SET	AUTO / MANUAL	Specifies whether IP address allocation is automatic (DHCP) or manually assigned.
IP ADDRESS	xxx.xxx.xxx.xxx	Current assigned IP address. To change, press **ENTER** and use **+**/**–** keys to increment 1st octet, then press ENTER again to move on to next octet. When 4th octet has been set, press ENTER again to register new address.
SUBNET MASK	xxx.xxx.xxx.xxx	Current assigned subnet mask. To change, proceed as above.
GATEWAY ADDRESS	xxx.xxx.xxx.xxx	Current assigned gateway address. To change, proceed as above.
INITIALIZE NIC?	EXECUTE	Initialises the network hardware.
WEB/IPP	**ENABLE** / DISABLE	Enables or disables Web config. facility and Internet Printing Protocol.
TELNET	**ENABLE** / DISABLE	Enables or disables Telnet config. facility.
FTP	**ENABLE** / DISABLE	Enables or disables communication via FTP.
SNMP	**ENABLE** / DISABLE	Enables or disables SNMP protocol.

NETWORK MENU		
ITEM	**SETTINGS**	**EXPLANATION**
LAN	**NORMAL** / SMALL	Selects network size.
HUB LINK SETTING	**AUTO NEGOTIATE** 100BASE-TX FULL 100BASE-TX HALF 10BASE-T FULL 10BASE-T HALF	Sets full or half duplex for communication via a network hub.

MAINTENANCE MENU

This menu provides access to various printer maintenance functions.

MAINTENANCE MENU		
ITEM	**SETTINGS**	**EXPLANATION**
MENU RESET	EXECUTE	Resets menus to default settings.
SAVE MENU	EXECUTE	Saves current menu settings as default values. At confirmation prompt, press **ENTER** to confirm save, or **CANCEL** to cancel.
POWER SAVE	**ENABLE** / DISABLE	Enables or disables automatic power save mode. Delay before entering this mode is set in the system configuration menu.
PAPER BLACK SETTING	–2~0~+2	Used for small adjustment when you experience faded print or light specks / streaking in monochrome printing on white paper. Select a higher value to reduce fading, or a lower value to reduce specks or streaking in high density print areas.
PAPER COLOUR SETTING	–2~0~+2	As above, but for colour printing.
TRANSPR BLACK SETTING	–2~0~+2	As above but for mono printing on transparencies.
TRANSPR COLOUR SETTING	–2~0~+2	As above but for colour printing on transparencies.

USAGE MENU

This menu is for information only, and provides an indication of total usage of the printer and the expected life left in its consumable items. This is particularly useful if you do not have a full set of replacement consumables to hand and you need to know how soon you will need them.

USAGE MENU ITEM	EXPLANATION
TOTAL PAGE COUNT	The total number of prints output by the printer.
TRAYn PAGE COUNT	The total number of pages fed from tray n.
MPT PAGE COUNT	The total number of pages fed from the multi purpose tray.
COLOUR PAGE COUNT	The total number of pages printed in colour.
MONO PAGE COUNT	The total number of pages printed in monochrome.
K DRUM LIFE REMAINING C DRUM LIFE REMAINING M DRUM LIFE REMAINING Y DRUM LIFE REMAINING	Percentage of life remaining in these consumable items.
BELT LIFE REMAINING	Percentage of belt life remaining.
FUSER LIFE REMAINING	Percentage of fuser life remaining.
K TONER C TONER M TONER Y TONER	Cartridge size and current toner level.

OVERLAYS AND MACROS

WHAT ARE OVERLAYS AND MACROS?

If you would like to print on special stationery, such as forms and letterhead, but do not want to use pre-printed stationery, you can create your own using these advanced features.

You can use PostScript overlays to generate all your special stationery and store it in the printer for use whenever you need it. If you have chosen to install the PCL driver, macros perform a similar function.

NOTE

PostScript overlays are not available for Windows 95/98/Me.

You can create several overlays or macros, and combine them in any way you like to produce a variety of forms and other special stationery. Each image can be printed on just the first page of a document, on all pages, on alternate pages, or just the pages that you specify.

CREATING POSTSCRIPT OVERLAYS

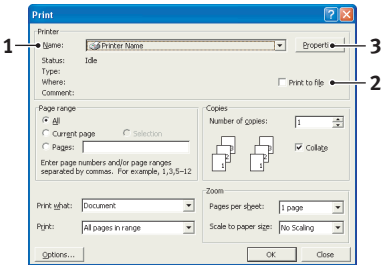
Three steps are required to create an overlay:

1. Create the form data using your own application software and print it to a printer (.PRN) file.
2. Use the Storage Device Manager utility software supplied on CD with your printer to create a "project file," import the .PRN file(s), and download the generated filter (.HST) file to the printer. The project file will contain one or more overlay images which are functionally related, such as the cover page and the continuation page images for business letters.
3. Use downloaded files to define your overlays ready for use when printing your documents.

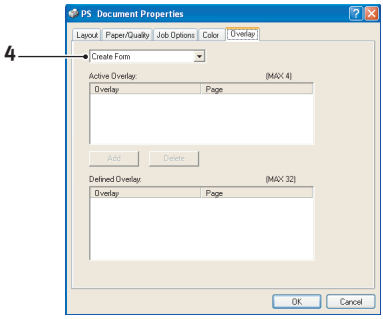
When printing overlay files to disk, do not select any special features, such as two-sided printing or multiple copies. These are not appropriate to overlays, they apply only to your final documents.

CREATING THE OVERLAY IMAGE

1. Use your preferred application, perhaps a graphics program, to create the required overlay image and save it.
2. Open your application's **Print...** dialogue.
3. Make sure that the selected printer name (1) is that of your PostScript printer driver.
4. Select the **Print To File** (2) option.
5. Click the **Properties** button (3) to open the Document Properties window.



6. On the Overlay tab, choose **Create Form** from the drop-down list (4).



7. Click **OK** to close the Document Properties window.

8. Click **OK** again to close the Print dialogue.

9. When prompted for a print file name, enter a meaningful name with the extension .PRN.

10. Close your application.

CREATE AND DOWNLOAD THE PROJECT

1. From the Windows **Start** menu, start **Storage Device Manager** (SDM) and allow SDM to discover the printer.

2. Choose **Printers→New Project**.

3. Choose **Printers→Add File to Project**.

4. Set the **Files of Type** drop-down list to **PRN Files(*.prn)**.

5. Navigate to the folder where the .PRN files are stored and select one or more of these to include in your overlay set.

   You can have more than one printer (.PRN) file in a project. For example, one for top pages and another for continuation pages. Use standard Windows techniques (Shift or Ctrl keys) to select multiple files simultaneously if you need to.

6. Click **Open** to add these files to the current project.

7. When a message box appears confirming that a filter file has been created, click **OK** to clear the message.

8. The project window will display one .HST file for each printer file added. Make a careful note of each of these names. Ensure that you note them *exactly* as they appear, they are case sensitive, and you will need them later.

9. Choose **Projects→Save Project** and enter a meaningful name (e.g. "Letter Stationery") so that you can recognise it later if you want to modify it.

10. Choose **Projects→Send Project Files to Printer** to download the project to the printer.

    If you have a hard disk in the printer, SDM will automatically download files to it. If not, SDM will download files to flash memory. If you have a hard disk but still prefer to download to flash memory, double-click the file name in the Project window and under **Volume**, type in **%Flash0%** and then click **OK**.

11. When the message "Command Issued" appears confirming that the download is complete, click **OK** to clear the message.

TEST PRINTING THE OVERLAY

1. Click on the printer icon for the relevant printer and choose **Printers→Test Form**.

2. In the Test PostScript Form window, to test each overlay select it and click **OK**. There will be a short pause while the printer processes the form, and then it will print.

3. When each overlay has been tested, click **Exit**.

4. Click the standard Windows **Close (X)** button, or choose **Projects→Exit** to close Storage Device Manager.

DEFINING OVERLAYS

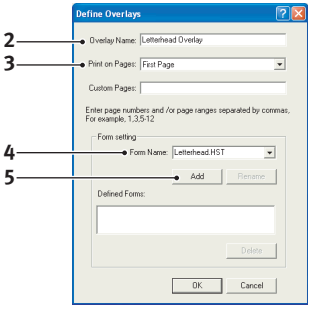
This is the final step before the new overlays are ready for use.

1. Open the Printers (called "Printers and Faxes" in Windows XP) window via the **Start** menu or the Windows Control Panel.

2. Right-click on the Relevant PostScript printer icon and choose **Printing Preferences** from the pop-up menu.

3. On the **Overlay** tab, click the **New** button.

4. In the **Define Overlays** window, enter a suitable name (2) for this overlay and choose which page(s) (3) of your documents will use this overlay.



5. Enter the name of the overlay file (4) *exactly* as it appeared in the Storage Device Manager project window. Remember that this name is case sensitive.

If you forgot to note the overlay names when you created them, you can find them using Storage Device Manager to view the project file, or the printer's Information Menu to print a file list and identify them from there.

6. Click **Add** (5) to add this overlay into the defined overlays list.

7. Click **OK** to close the Define Overlay window.

The new overlay now appears in the Defined Overlays list in the printer properties window.

8. Repeat the above procedure if you wish to define more overlays.

9. When done, click **OK** to close the printer properties window.

Your new overlays are now ready and available to be used for any future documents you wish.

PRINTING WITH POSTSCRIPT OVERLAYS

Once you have defined your overlays you are ready to use them for any documents you wish. The example illustrated here uses two overlays for business letters. The first prints on just the top page, and the second prints on any or all subsequent pages.

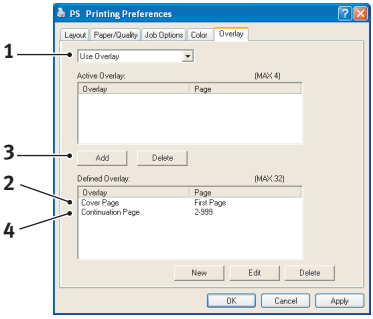
1. Prepare your document in the normal way using your own application software. Remember, if necessary, to format the document so that it will fit within the appropriate space.

2. Open your application's **Print...** dialogue and choose any options you will require, ensuring that the target printer is your PostScript printer driver in which the overlays have been defined.

3. Click the **Properties** button to open the Printing Preferences window.

4. On the Overlays tab, choose **Use Overlay** from the drop-down list (1).

5. Click on the first overlay (2) you wish to use. In this example it is the Cover Page overlay. Then click the **Add** button (3).



6. If you want to use another overlay, in this case it is the Continuation page, click the second overlay (4) and then click the **Add** button (3) again.

7. When you have selected all the overlays you want to use for this document, click **OK**.

8. Finally, in your application's print dialogue, click **OK** to begin printing.

CREATING PCL OVERLAYS

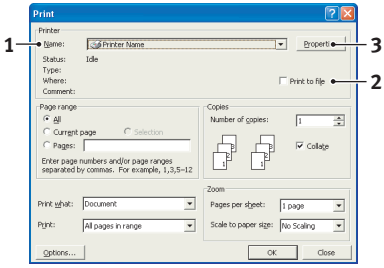
Three steps are required to create an overlay:

1. Create the form data using your own application software and print it to a printer (.PRN) file.
2. Use the Storage Device Manager utility software supplied on CD with your printer to create a "project file," import the .PRN file, and download the generated filter (.BIN) files to the printer.
3. Use downloaded files to define your overlay ready for use with any future document.

   When printing files to disk, do not select any special features, such as two-sided printing or multiple copies. These are not appropriate to macros, they apply only to your final documents.

CREATING THE OVERLAY IMAGE

1. Use your preferred application, perhaps a graphics program, to create the required image and save it.
2. Open your application's **Print...** dialogue.
3. Make sure that the selected printer name (1) is that of your PCL printer driver.
4. Select the **Print To File** (2) option.



5. When prompted for a print file name, enter a meaningful name with the extension .PRN .
6. Close your application.

CREATE AND DOWNLOAD MACROS

1. From the Windows **Start** menu, start **Storage Device Manager** (SDM) and allow SDM to discover the printer.
2. Choose **Printers→New Project** to start a new project.

3. Choose **Printers→Filter Macro File**. The Filter Printer Patterns dialogue box appears. Make any adjustments in the settings that you need and then click **OK**.

   Example: If you create a black oval in MS Paint and leave all the colour command filters checked, the black oval will print as a black rectangle when the overlay is used. To maintain the oval shape, turn off (deselect) the "Configure Image Data," "Palette ID" and "Palette Control" filters.

4. Set the **Files of Type** drop-down list to **PRN Files(*.prn)**.

5. Navigate to the folder where the overlay .PRN files are stored and select one or more of these to include in your overlay set.

   You can have more than one macro file in a project. For example, one for top pages and another for continuation pages. Use standard Windows techniques (Shift or Ctrl keys) to select multiple files simultaneously if you need to.

6. Click **Open** to add these files to the current project. (You can also drag and drop files from Windows Explorer directly into the project window if you prefer.) When a message box appears confirming that a filter file has been created, click **OK** to clear the message.

7. The project window will display one .BIN file for each printer file added. Make a careful note of the name and ID number for each of the files. You will need them later.

   If you wish to edit the names or ID numbers, double-click the file entry and edit the details. **Volume** details are as follows:

   0 = printer's disk drive PCL partition;
   1 = printer's disk drive Common partition;
   %disk0% = printer's disk drive PostScript partition;
   2 = flash memory PCL
   %Flash0% = flash memory PostScript

   Note that the names are case sensitive, and will be needed later *exactly* as they appear in this list.

8. Choose **Projects→Save Project** and enter a meaningful name (e.g. "Letter Stationery") so that you can recognise it.

9. Choose **Projects→Send Project Files to Printer** to download the project to the printer.

10. When the message "Command Issued" appears confirming that the download is complete, click **OK** to clear the message.

TEST PRINTING THE MACRO

1. Choose **Printers→Test Macro**.

2. In the Test Macro window, enter its ID number and click **OK**. After a short pause the printer will print the macro.

3. When each macro has been tested, click **Exit**.

4. Click the standard Windows **Close (X)** button, or choose **Projects→Exit** to close Storage Device Manager.

DEFINING OVERLAYS

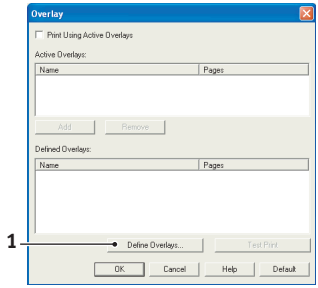
This is the final step before the new overlays are ready for use.

1. Open the Printers (called "Printers and Faxes" in Windows XP) window via the **Start** menu or the Windows Control Panel.

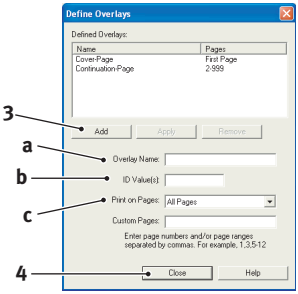
2. Right-click on the Relevant PostScript printer icon and choose **Printing Preferences** from the pop-up menu.

3. On the Job Options tab, click the **Overlay** button.

4. In the Overlay window, Click the **Define Overlays button** (1).



5. In the Define Overlays window, enter the **name** (a) and **ID** (b) of the required overlay, and define which **page(s)** (c) of your documents will use this overlay. Then click the **Add button** (3) to add this overlay to the list of defined overlays. Repeat for any other related overlays. When done, click the **Close button** (4) to close the window.



The example illustrated shows two overlays defined, one for a cover page and one for continuation pages.

Remember that names and IDs of overlay files must be entered *exactly* as they appeared in the Storage Device Manager project window. Remember also that names are case sensitive.

If you forgot to note the overlay name or ID when you created them, you can find them using Storage Device Manager to view the project file, or the printer's Information Menu to print a file list and identify them from there.

The new overlays will now appear in the Defined Overlays list in the printer properties window.

6. When done, click **OK** to close the printing preferences window.

Your new overlays are now ready and available to be used for any future documents you wish.

PRINTING WITH PCL OVERLAYS

Once you have defined your overlays you are ready to use them for any documents you wish. The example illustrated here uses two overlays for business letters. The first prints on just the top page, and the second prints on any or all subsequent pages.

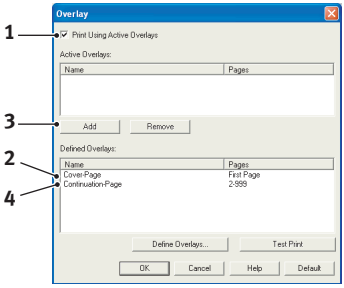
1. Prepare your document in the normal way using your own application software. Remember, if necessary, to format the document so that it will fit nicely within the plain areas on your letterhead overlay.

2. Open your application's **Print...** dialogue and choose any options you will require, ensuring that the target printer is your PCL printer driver in which the overlays have been defined.

3. Click the **Properties** button to open the Printing Preferences window.

4. On the Overlay tab, check the **Use active overlays** checkbox (1).

5. In the Defined Overlays list, click on the first overlay (2) you wish to use, and click the **Add** button (3) to add it to the Active Overlays list. (If you want a reminder of how this overlay looks, click the **Test Print** button.)



6. If you want to use another overlay with this document, in this example it is the "Continuation Page" overlay, click this overlay (4) in the list of defined overlays, and then click the **Add** button (3) again to add the second overlay to the list of active overlays.

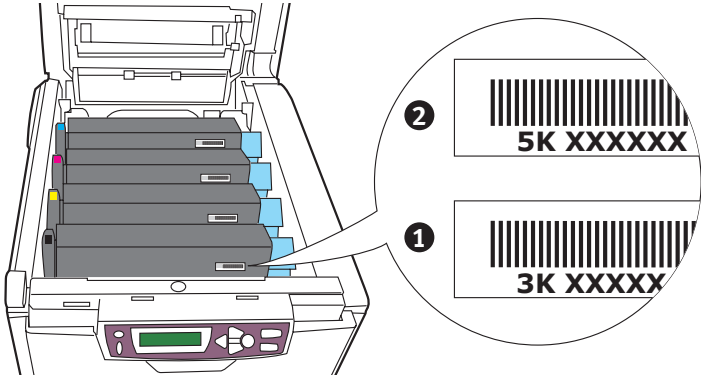
7. When the list of active overlays contains all the items you want to use, click **OK**.

8. Finally, click the **Print** button in your application's Print dialogue to begin printing your document.

REPLACING CONSUMABLE ITEMS

This section explains how to replace consumable items when due. As a guide, the life expectancy of these items is:

> Toner — 3,000 (standard capacity) or 5,000 (high capacity) A4 pages at 5% coverage, which means that 5% of the addressable print area is printed with this colour. Toner life is directly affected by coverage, e.g. at 10% coverage there is sufficient toner for 1,500 pages (standard capacity) or 2,500 pages (high capacity), conversely at 2.5% there is sufficient toner for 6,000 pages (standard capacity) or 10,000 pages (high capacity) in the cartridge.



The printer is shipped with sufficient toner for 3,000 A4 pages in the print cartridges of which 1,500 A4 pages of toner are used to charge the image drum.

> Image drum — 17,000 pages (calculated on typical office usage where 20% of printing is 1 page only, 30% is 3 page documents and 50% is print runs of 15 pages or more).

> Transfer belt — Approximately 50,000 A4 pages.

> Fuser — Approximately 45,000 A4 pages.

> Standard capacity toner cartridge.

> High capacity toner cartridge.

CONSUMABLE ORDER DETAILS

ITEM	LIFE	ORDER NO.
Toner, high capacity, black	5,000 A4 @ 5%	42127457
Toner, high capacity, cyan	5,000 A4 @ 5%	42127456
Toner, high capacity, magenta	5,000 A4 @ 5%	42127455
Toner, high capacity, yellow	5,000 A4 @ 5%	42127454
Toner, rainbow pack (1 ea. CMYK)	5,000 A4 @ 5%	42403006
Toner, standard capacity, black	3,000 A4@ 5%	42804548
Toner, standard capacity, cyan	3,000 A4@ 5%	42804547
Toner, standard capacity, magenta	3,000 A4@ 5%	42804546
Toner, standard capacity, yellow	3,000 A4@ 5%	42804545
Image drum, black	17,000 A4 pages*	42126673
Image drum, cyan	17,000 A4 pages*	42126672
Image drum, magenta	17,000 A4 pages*	42126671
Image drum, yellow	17,000 A4 pages*	42126670
Fuser	45,000 A4 pages	42625503
Transport belt	50,000 A4 @ 3/job	42158712

* *Average life: 20% pages at continuous print, 50% pages at 3 pages per job and 30% pages at 1 page per job.*

Only use genuine Oki Original consumables to ensure the best quality and performance from your hardware. Non Oki Original products may damage your printer's performance and invalidate your warranty. Specifications subject to change without notice. All trademarks acknowledged.

TONER CARTRIDGE REPLACEMENT

CAUTION!

To avoid toner wastage and possible toner sensor errors, do not change the toner cartridge(s) until "TONER EMPTY" is displayed.

The toner used in this printer is a very fine dry powder. It is contained in four cartridges: one each for cyan, magenta, yellow and black.

Have a sheet of paper handy so that you have somewhere to place the used cartridge while you install the new one.

Dispose of the old cartridge responsibly, inside the pack that the new one came in. Follow any regulations, recommendations, etc., which may be in force concerning waste recycling.

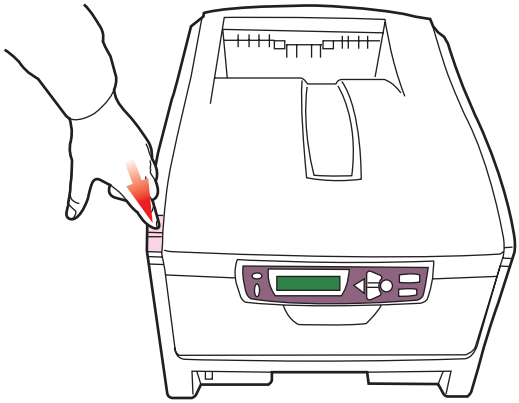
If you do spill any toner powder, lightly brush it off. If this is not enough, use a cool, damp cloth to remove any residue. *Do not use hot water, and never use solvents of any kind. They will make stains permanent.*

WARNING!

If you inhale any toner or get it in your eyes, drink a little water or bathe your eyes liberally in cold water. Seek medical attention immediately.

Switch off the printer and allow the fuser to cool for about 10 minutes before opening the cover.

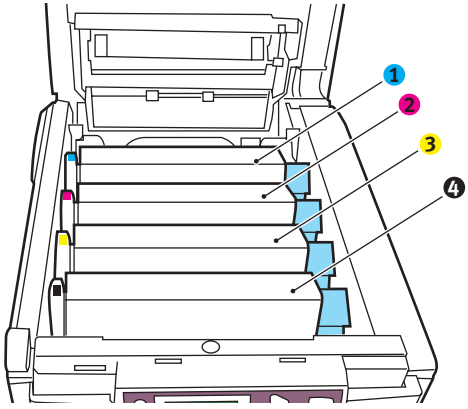
1. Press the cover release and open the printer's top cover fully.



WARNING!

If the printer has been powered on, the fuser may be hot. This area is clearly labelled. Do not touch.

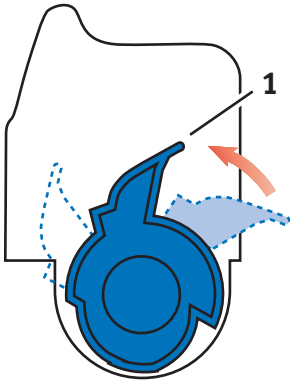
2. Note the positions of the four cartridges.



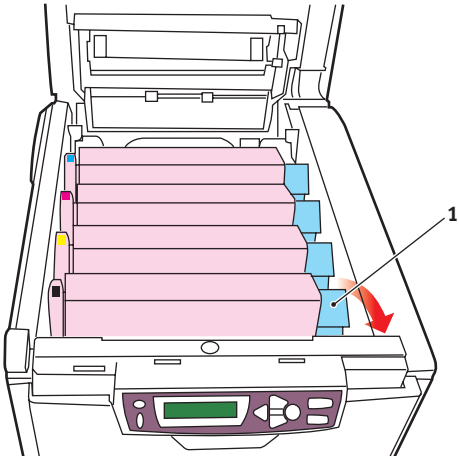
1. Cyan cartridge	2. Magenta cartridge
3. Yellow cartridge	4. Black cartridge

3. Carry out one of the following:

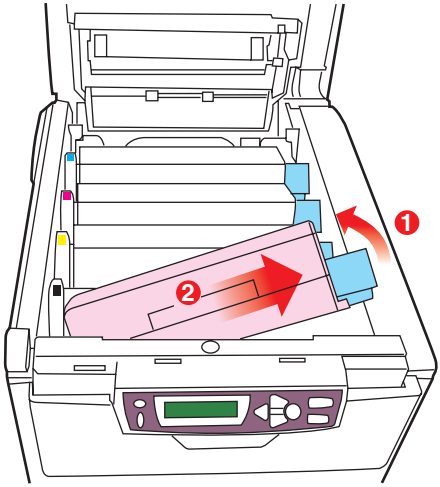
(a) If you are replacing a toner cartridge that has been supplied with your printer (lever has 3 positions), pull the coloured toner release lever on the cartridge to be replaced towards the front of the printer, in the direction of the arrow, but stop at the central (upright) position (1).



(b) If you are replacing any other toner cartridge (lever has 2 positions), pull the coloured toner release lever (1) on the cartridge to be replaced fully towards the front of the printer.



4. Lift the right-hand end of the cartridge and then draw the cartridge to the right to release the left-hand end as shown, and withdraw the toner cartridge out of the printer.



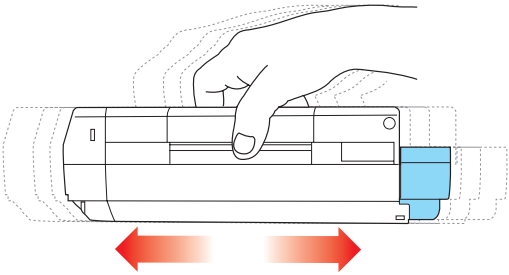
5. Put the cartridge down gently onto a piece of paper to prevent toner from marking your furniture.

CAUTION!

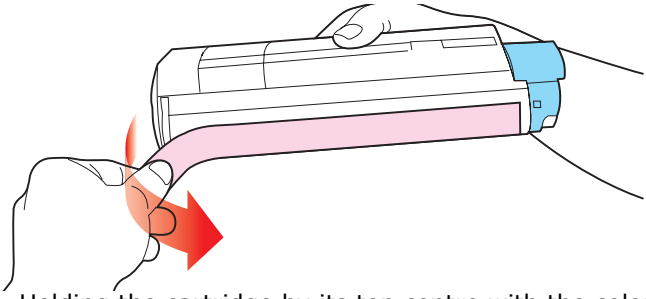
The green image drum surface is very delicate and light sensitive. Do not touch it and do not expose it to normal room light for more than 5 minutes. If the drum unit needs to be out of the printer for longer than this, please wrap the cartridge inside a black plastic bag to keep it away from light. Never expose the drum to direct sunlight or very bright room lighting.

6. Remove the new cartridge from its box but leave its wrapping material in place for the moment.

7. Gently shake the new cartridge from end to end several times to loosen and distribute the toner evenly inside the cartridge.

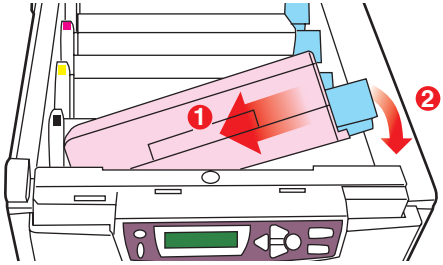


8. Remove the wrapping material and peel off the adhesive tape from the underside of the cartridge.

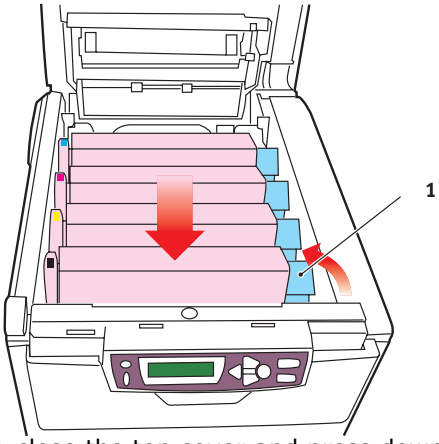


9. Holding the cartridge by its top centre with the coloured lever to the right, lower it into the printer over the image drum unit from which the old cartridge was removed.

10. Insert the left end of the cartridge into the top of the image drum unit first, pushing it against the spring on the drum unit, then lower the right end of the cartridge down onto the image drum unit.



11. Pressing gently down on the cartridge to ensure that it is firmly seated, push the coloured lever (1) towards the rear of the printer. This will lock the cartridge into place and release toner into the image drum unit.



12. Finally, close the top cover and press down firmly at both sides so that the cover latches closed.

IMAGE DRUM REPLACEMENT

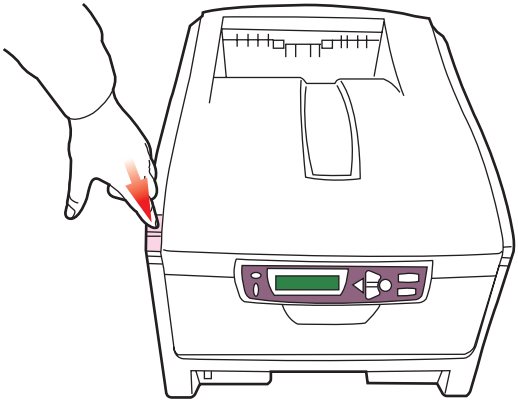
Switch off the printer and allow the fuser to cool for about 10 minutes before opening the cover.

CAUTION!

Static sensitive devices, handle with care.

The printer contains four image drums: cyan, magenta, yellow and black.

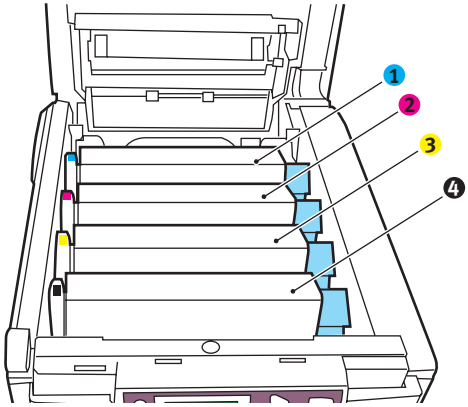
1. Press the cover release and open the printer's top cover fully.



WARNING!

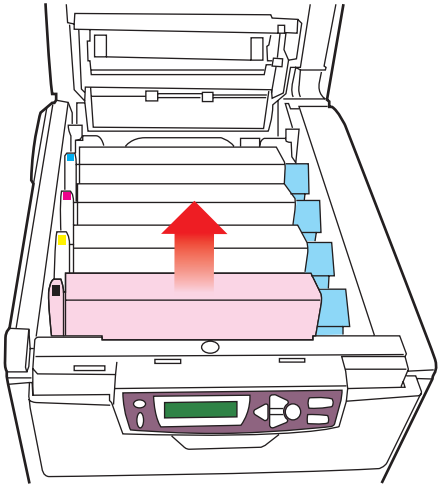
If the printer has been powered on, the fuser will be hot. This area is clearly labelled. Do not touch.

2. Note the positions of the four cartridges.



1. Cyan cartridge	2. Magenta cartridge
3. Yellow cartridge	4. Black cartridge

3. Holding it by its top centre, lift the image drum, complete with its toner cartridge, up and out of the printer.

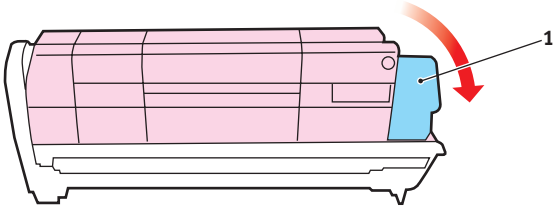


4. Put the cartridge down gently onto a piece of paper to prevent toner from marking your furniture and to avoid damaging the green drum surface.

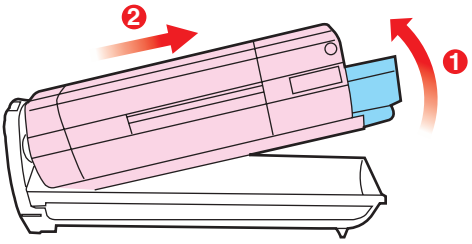
CAUTION!

The green image drum surface at the base of the cartridge is very delicate and light sensitive. Do not touch it and do not expose it to normal room light for more than 5 minutes. If the drum unit needs to be out of the printer for longer than this, please wrap the cartridge inside a black plastic bag to keep it away from light. Never expose the drum to direct sunlight or very bright room lighting.

5. With the coloured toner release lever (1) to the right, pull the lever towards you. This will release the bond between the toner cartridge and the image drum cartridge.



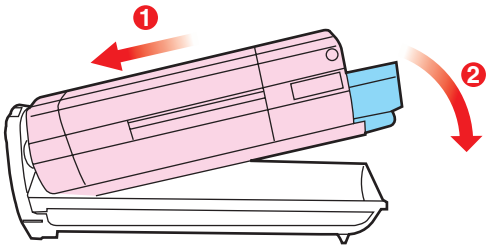
6. Lift the right-hand end of the cartridge and then draw the cartridge to the right to release the left-hand end as shown, and withdraw the toner cartridge out of the image drum cartridge. Place the cartridge on a piece of paper to avoid marking your furniture.



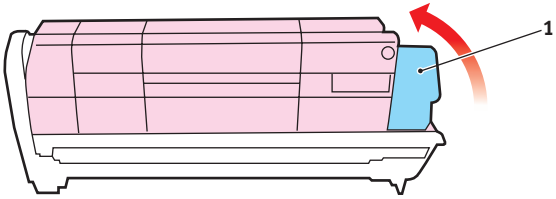
7. Take the new image drum cartridge out of its packaging and place it on the piece of paper where the old cartridge was placed. Keep it the same way round as the old unit. Pack the old cartridge inside the packaging material for disposal.

8. Place the toner cartridge onto the new image drum cartridge as shown. Push the left end in first, and then lower the right end in. (It is not necessary to fit a new

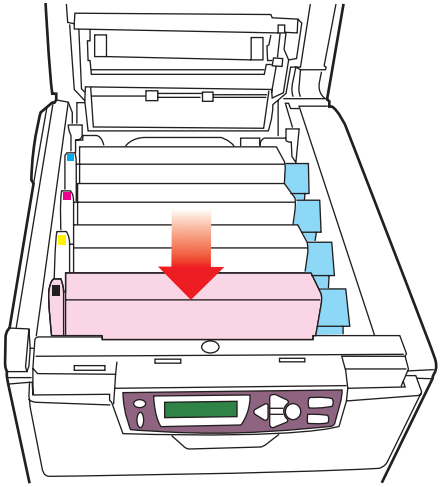
toner cartridge at this time unless the remaining toner level is very low.)



9. Push the coloured release lever (1) away from you to lock the toner cartridge onto the new image drum unit and release toner into it.



10. Holding the complete assembly by its top centre, lower it into place in the printer, locating the pegs at each end into their slots in the sides of the printer cavity.



11. Finally, close the top cover and press down firmly at both sides so that the cover latches closed.

NOTE

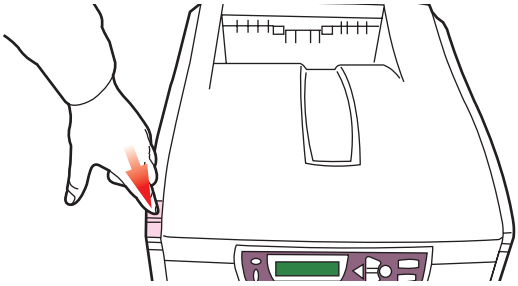
If you need to return or transport your printer for any reason, please make sure you remove the image drum unit beforehand and place in the bag provided. This is to avoid toner spillage.

REPLACING THE BELT UNIT

The belt unit is located under the four image drums. This unit requires replacement approximately every 50,000 pages.

Switch off the printer and allow the fuser to cool for about 10 minutes before opening the cover.

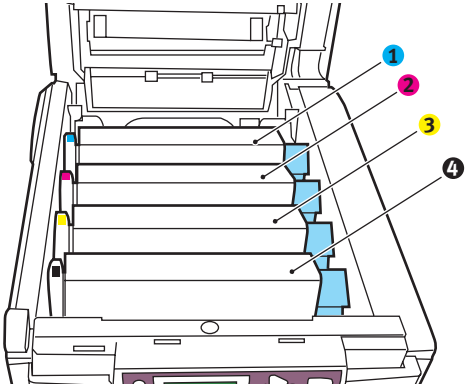
1. Press the cover release and open the printer's top cover fully.



WARNING!

If the printer has been powered on, the fuser will be hot. This area is clearly labelled. Do not touch.

2. Note the positions of the four cartridges. It is essential that they go back in the same order



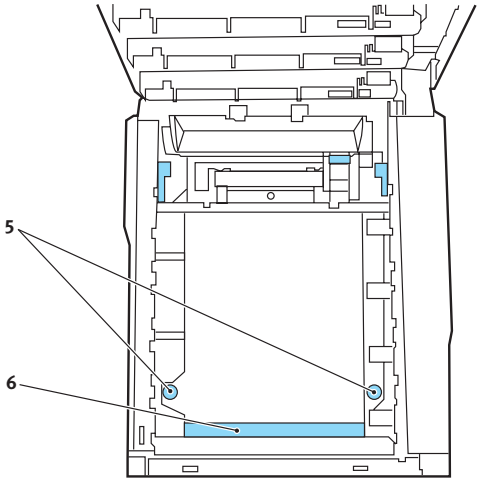
1. Cyan cartridge	2. Magenta cartridge
3. Yellow cartridge	4. Black cartridge

3. Lift each of the image drum units out of the printer and place them in a safe place away from direct sources of heat and light.

CAUTION!

The green image drum surface at the base of each cartridge is very delicate and light sensitive. Do not touch it and do not expose it to normal room light for more than 5 minutes. If the drum unit needs to be out of the printer for longer than this, please wrap the cartridge inside a black plastic bag to keep it away from light. Never expose the drum to direct sunlight or very bright room lighting.

4. Locate the two fasteners (5) at each side of the belt and the lifting bar (6) at the front end.



5. Turn the two fasteners 90° to the left. This will release the belt from the printer chassis.

6. Pull the lifting bar (6) upwards so that belt tilts up towards the front, and withdraw the belt unit from the printer.

7. Lower the new belt unit into place, with the lifting bar at the front and the drive gear towards the rear of the printer. Locate the drive gear into the gear inside the printer by the rear left corner of the unit, and lower the belt unit flat inside the printer.

8. Turn the two fasteners (5) 90° to the right until they lock. This will secure the belt unit in place.

9. Replace the four image drums, complete with their toner cartridges, into the printer in the same sequence as they came out: cyan (nearest the rear), magenta, yellow and black (nearest the front).

10. Finally, close the top cover and press down firmly at both sides so that the cover latches closed.

FUSER REPLACEMENT

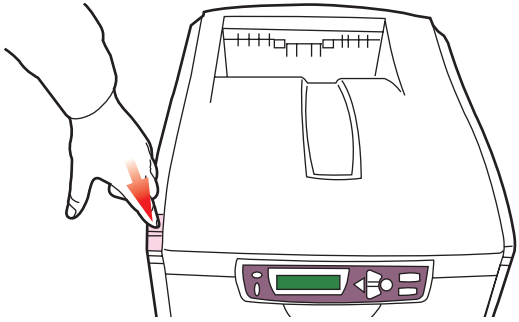
The fuser is located inside the printer just behind the four image drum units.

WARNING!

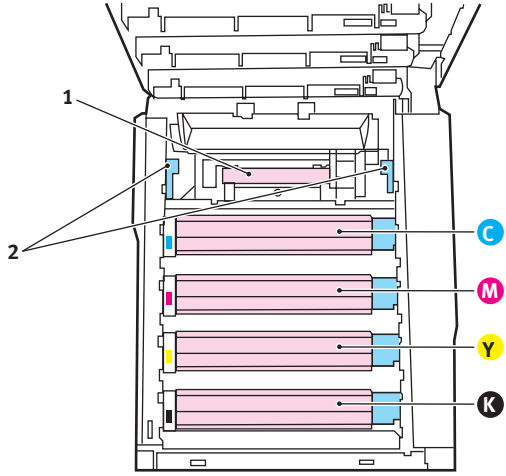
If the printer has recently been powered on, some fuser components will be very hot. Handle the fuser with extreme care, holding it only by its handle, which will only be mildly warm to the touch. A warning label clearly indicates the area. If in doubt, switch the printer off and wait at least 10 minutes for the fuser to cool before opening the printer cover.

Switch off the printer and allow the fuser to cool for about 10 minutes before opening the cover.

1. Press the cover release and open the printer's top cover fully.



2. Identify the fuser handle (1) on the top of the fuser unit.

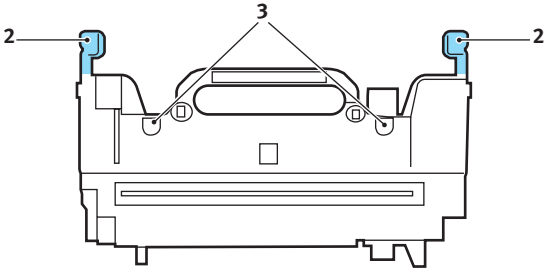


3. Pull the two fuser retaining levers (2) towards the front of the printer so that they are fully upright.

4. Holding the fuser by its handle (1), lift the fuser straight up and out of the printer. If the fuser is still warm, place it on a flat surface which will not be damaged by heat.

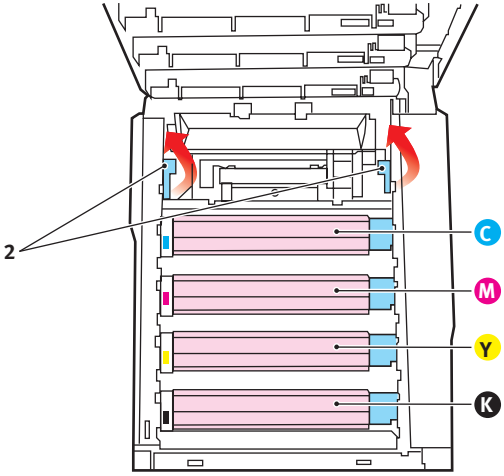
5. Remove the new fuser from its packaging and remove the transit material.

6. Holding the new fuser by its handle, make sure that it is the correct way round. The retaining levers (2) should be fully upright, and the two locating lugs (3) should be towards you.



7. Lower the fuser into the printer, locating the two lugs (3) into their slots in the metal partition which separates the fuser area from the image drums.

8. Push the two retaining levers (2) towards the rear of the printer to lock the fuser in place.

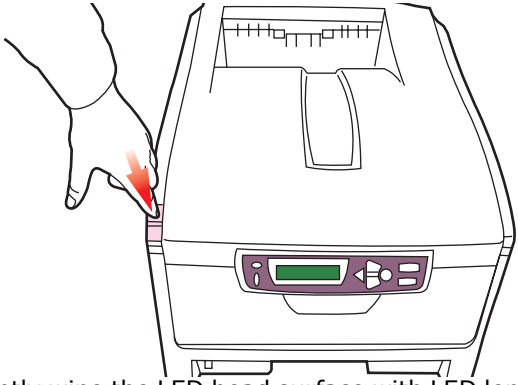


Finally, close the top cover and press down firmly at both sides so that the cover latches closed.

CLEANING THE LED HEAD

Clean the LED head when printing does not come out clearly, has white lines or when text is blurred.

1. Switch off the printer and open the top cover.



2. Gently wipe the LED head surface with LED lens cleaner or soft tissue.

CAUTION!

Do not use methyl alcohol or other solvents on the LED head as damage to the lens surface will occur.

3. Close the top cover.

INSTALLING UPGRADES

This section explains how to install optional equipment into your printer. This includes:

- duplex (two-sided printing) unit;
- additional RAM memory;
- 20GB hard disk drive.

DUPLEX UNIT

The duplex unit adds the function of two-sided printing, using less paper and making large documents easier to handle. It also enables booklet printing, which uses even less paper and makes large documents even easier to handle.

NOTE

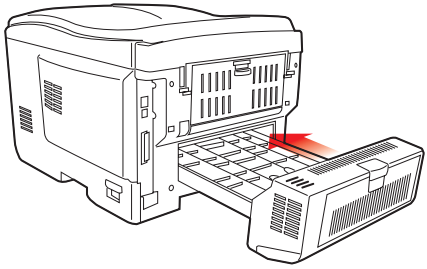
The duplex unit requires an additional 64MB memory upgrade (standard on C5400dn).

The duplex unit slides straight into the rear of the printer and requires no tools to install.

1. Unpack the new unit and remove any transit material from it.

2. Switch the printer off. It is not necessary to disconnect the AC power cable.

3. Ensure that the unit is the right way up, as shown, and push it into the slot behind the rear panel. The panel will swing inwards as you push the unit into it. Push the unit all the way in until it stops and latches home.



4. Switch the printer on and wait for it to warm up (about 1 minute).

5. Print a menu map as follows:

   (a) Press the **+** button to access the Information Menu.

   (b) Press **ENTER** once for the menu map.

   (c) Press **ENTER** again to print the menu map.

   (d) When the menu map is printed, press **ON LINE** to exit the menu system.

6. Examine the first page of the menu map.

   Near the top of the page, between the two horizontal lines, you will see the current printer configuration. This list should indicate that the duplex unit is now installed.

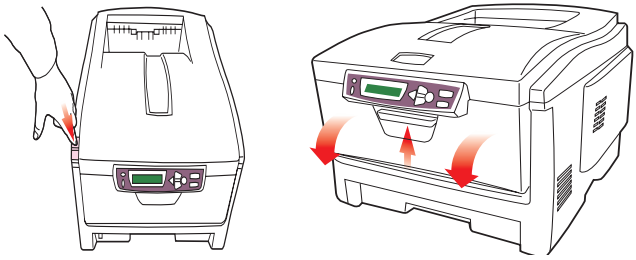
   All that remains is to adjust the Windows printer driver to make full use of the new features.

MEMORY UPGRADE

The basic printer model has 128MB standard memory. This can be upgraded by changing the 64MB memory module for an optional memory module of either 128MB or 256MB, giving a maximum memory capacity of 320MB.

Installation takes a few minutes, and requires a medium size cross-head (philips type) screwdriver.

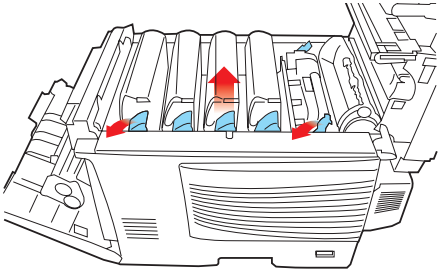
1. Switch the printer off and disconnect the AC power cable.
2. Press the cover release and open the printer's top cover fully.



WARNING!

If the printer has been powered on recently, the fuser will be hot. This area is clearly labelled. Do not touch.

3. Lift the front cover latch and pull open the front cover.
4. Remove the screw securing the right-hand side cover.

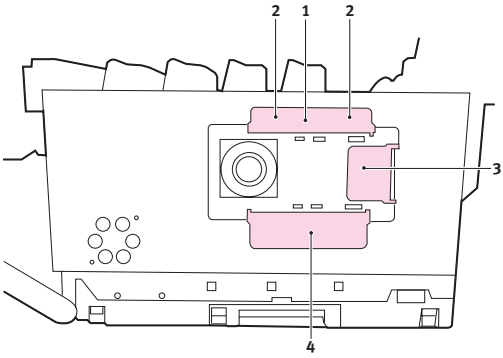


5. Lift the edge of the side cover slightly at the two points shown, and pull the cover away from the printer at the top. Lift the cover slightly to detach it from the printer. Place it safely to one side.

6. Carefully remove the new memory board from its wrapping. Try to handle the board only by its short edges, avoiding contact with any metal parts as far as possible. In particular, avoid touching the edge connector.

7. Notice that the memory board has a small cutout in the edge connector, which is closer to one end than the other.

8. Identify the RAM expansion slot (1) in the printer.



9. If the RAM expansion slot already contains a memory upgrade board, that board will have to be removed before you can install the new one. To remove it proceed as follows, otherwise skip to step 10.

(a) Identify the locking clips (2) at each end of the RAM expansion slot (1).

(b) Push the clips outward and back into the printer. The board will pop out slightly.

(c) Grip the board firmly by its short edges and pull it out of the slot.

(d) Place the removed memory board in the antistatic bag which originally contained the new memory board.

10. Hold the new memory board by its short edges, so that the edge connector faces in towards the RAM expansion slot, and the small cutout is closer to the rear of the printer.

11. Gently push the board into the RAM expansion slot until it latches in and will not go any further.

12. Locate the three retaining clips at the bottom of the side cover into their rectangular holes near the bottom of the printer.

13. Close the top of the side cover up to the printer and refit the securing screw removed in step 4.

14. Close the front cover and close the top cover, pressing down firmly at each side to latch it closed.

15. Reconnect the AC power cable and switch the printer on.

16. When the printer is ready, print a menu map as follows:

(a) Press the **+** button to access the Information Menu.

(b) Press **ENTER** once for the menu map.

(c) Press **ENTER** again to print the menu map.

(d) When the menu map is printed, press **ON LINE** to exit the menu system.

17. Examine the first page of the menu map.

Near the top of the page, between the two horizontal lines, you will see the current printer configuration. This list contains the figure for total memory size.

This should indicate the total memory now installed, which should be the size of memory board you have installed plus 64MB.

If you are using the Windows PostScript driver, follow the instructions later in this section to adjust the driver.

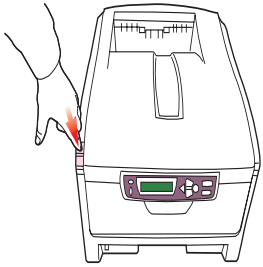
HARD DISK DRIVE

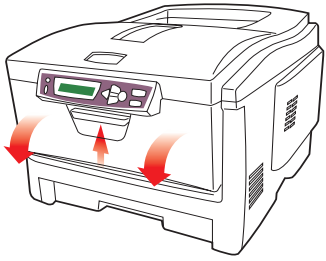
The optional 20GB internal hard disk drive (HDD) enables collating of printed pages and can be used to store overlays and macros, fonts, and secure or proof documents waiting to be printed.

Installation takes a few minutes, and requires a medium size cross-head (philips type) screwdriver.

1. Switch the printer off and disconnect the AC power cable.

2. Press the cover release and open the printer's top cover fully.



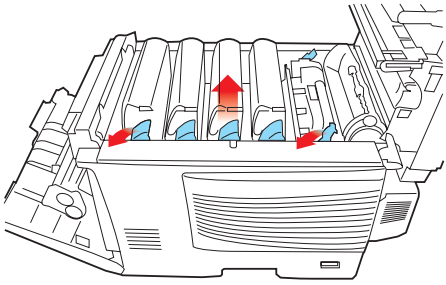


WARNING!

If the printer has been powered on recently, the fuser will be hot. This area is clearly labelled. Do not touch.

3. Lift the front cover latch and pull open the front cover.

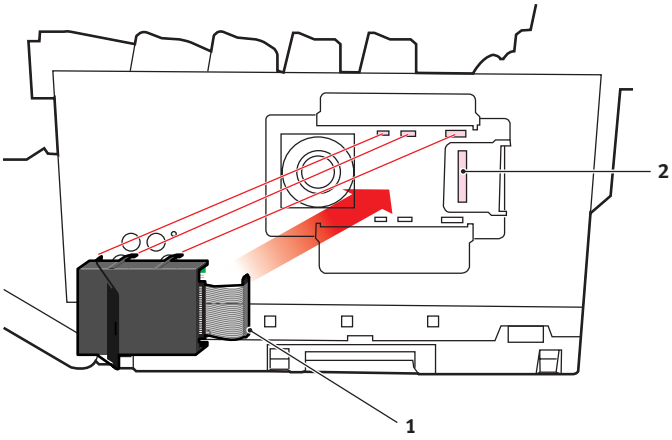
4. Remove the screw securing the right-hand side cover.



5. Lift the edge of the side cover slightly at the two points shown, and pull the cover away from the printer at the

top. Lift the cover slightly to detach it from the printer. Place it safely to one side.

6. Identify the six locating holes indicated in the illustration, which will be used to locate the disk unit onto the side of the printer.



7. With the component side of the disk unit facing the printer, and the connector cable towards the rear, lift the disk unit handle away from the disk body.

8. Plug the end of the connecting cable (1) into the disk unit connector (2) in the printer.

9. Locate the six legs of the disk unit into the mounting holes on the printer.

10. Push the handle flat against the disk unit, which will lever the unit slightly towards the rear of the printer, locking it into place.

11. Locate the three retaining clips at the bottom of the side cover into their rectangular holes near the bottom of the printer.

12. Close the top of the side cover up to the printer and refit the securing screw removed in step 4.

13. Close the front cover and close the top cover, pressing down firmly at each side to latch it closed.

14. Reconnect the AC power cable and switch the printer on.

15. When the printer is ready, print a menu map as follows:

(a) Press the **+** button to access the Information Menu.

(b) Press **ENTER** once for the menu map.

(c) Press **ENTER** again to print the menu map.

(d) When the menu map is printed, press **ON LINE** to exit the menu system.

16. Examine the first page of the menu map.

Near the top of the page, between the two horizontal lines, you will see the current printer configuration. This should now indicate that the hard disk unit is installed.

All that remains is to configure the Windows printer driver so that it knows the hard disk unit has been fitted, and the additional features can be made available immediately.

ADJUSTING WINDOWS PRINTER DRIVERS

Once your new upgrade has been installed, you may need to update the Windows printer driver so that the additional features are available to your Windows applications.

Remember that if your printer is shared between users on different computers, the driver must be adjusted on each user's machine.

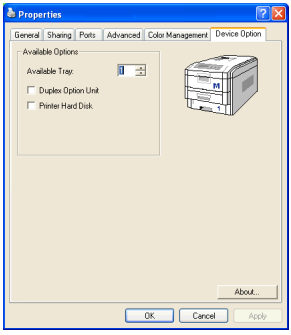
The illustrations shown here are for Windows XP. Other Windows versions may appear slightly different, but the principles are the same.

PCL DRIVER

If you have installed a memory upgrade it is not necessary to change the PCL printer driver, and you can ignore this section.

If you have installed a duplex unit or hard disk, proceed as follows:

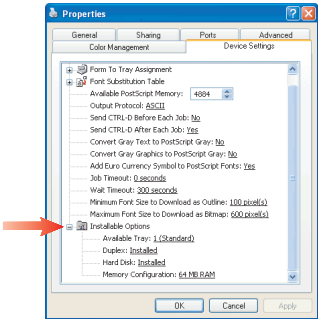
1. Open the Printers window (called "Printers and Faxes" in Windows XP) via the **Start** Menu or from the Windows Control Panel.
2. Right-click the printer icon for this printer, and choose **Properties** from the pop-up menu.
3. On the **Device Options** tab, check the box for the upgrade you have just installed.



4. Click **OK** to close the properties window, and then close the Printers window.

POSTSCRIPT DRIVER

This driver must be adjusted for any upgrade just installed.



1. Open the Printers window (called "Printers and Faxes" in Windows XP) via the **Start** Menu or from the Windows Control Panel.
2. Right-click the printer icon for this printer, and choose **Properties** from the pop-up menu.
3. On the **Device Settings** tab, locate the list of installable options. Change those settings to indicate the new features you have just installed.
4. Click **OK** to close the properties window, and then close the Printers window.

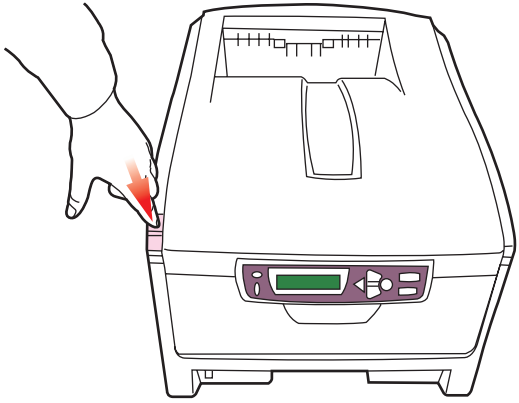
CLEARING PAPER JAMS

Provided that you follow the recommendations in this guide on use of print media, and you keep the media in good condition prior to use, your printer should give years of reliable service. However, paper jams occasionally do occur, and this section explains how to clear them quickly and simply.

Jams can occur due to paper misfeeding from a paper tray or at any point on the paper path through the printer. When a jam occurs, the printer immediately stops, and the Alert LED on the Status Panel (together with the Status Monitor) informs you of the event. If printing multiple pages (or copies), do not assume that, having cleared an obvious sheet, others will not also be stopped somewhere along the path. These must also be removed in order to clear the jam fully and restore normal operation.

1. If a sheet is well advanced out of the top of the printer, simply grip it and pull gently to draw it fully out. If it does not remove easily, do not use excessive force. It can be removed from the rear later.

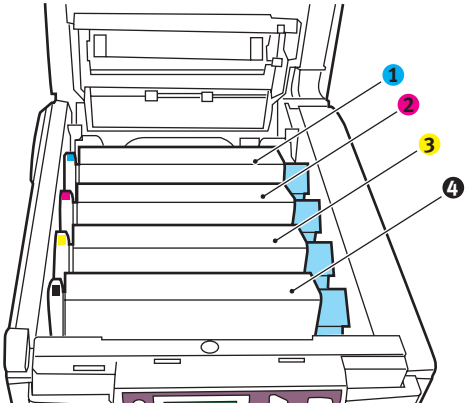
2. Press the cover release and open the printer's top cover fully.



WARNING!

If the printer has been powered on, the fuser will be hot. This area is clearly labelled. Do not touch.

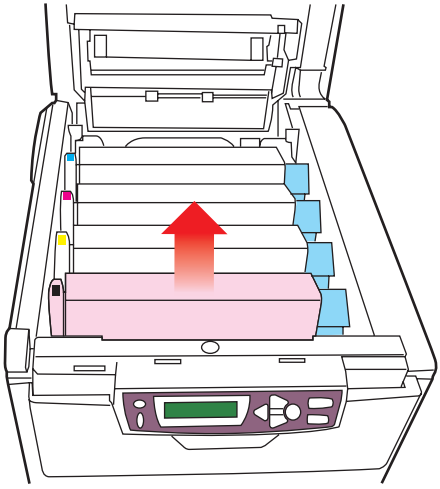
3. Note the positions of the four cartridges.



1. Cyan cartridge	2. Magenta cartridge
3. Yellow cartridge	4. Black cartridge

It will be necessary to remove the four image drums to gain access to the paper path.

4. Holding it by its top centre, lift the cyan image drum, complete with its toner cartridge, up and out of the printer.



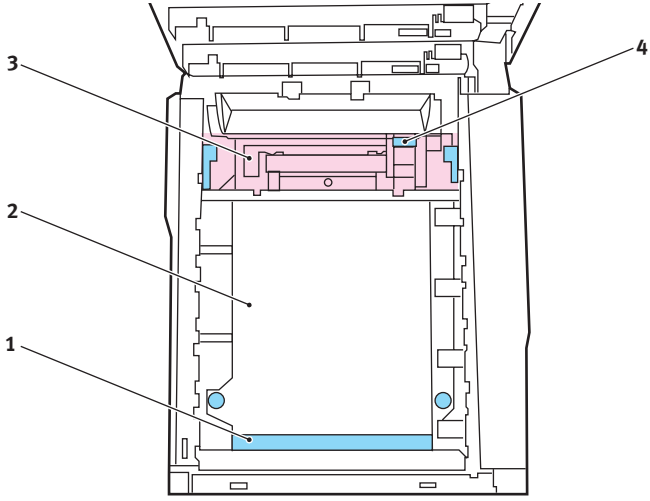
5. Put the cartridge down gently onto a piece of paper to prevent toner from marking your furniture and to avoid damaging the green drum surface.

CAUTION!

The green image drum surface at the base of the cartridge is very delicate and light sensitive. Do not touch it and do not expose it to normal room light for more than 5 minutes.

6. Repeat this removal procedure for each of the remaining image drum units.

7. Look into the printer to check whether any sheets of paper are visible on any part of the belt unit.

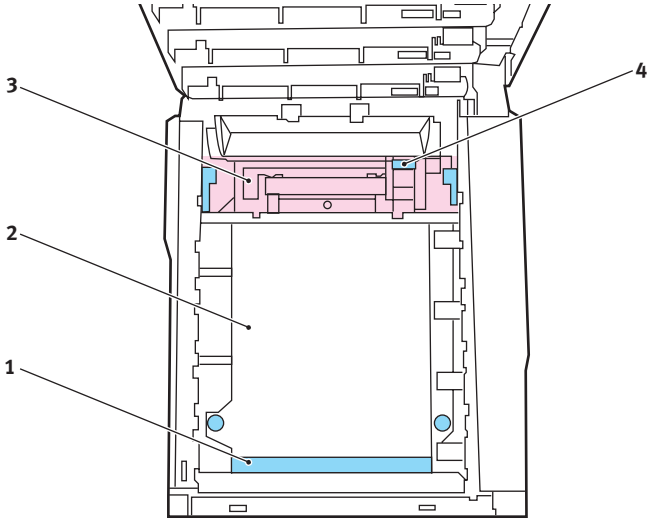


- To remove a sheet with its leading edge at the front of the belt (1), carefully lift the sheet from the belt and pull it forwards into the internal drum cavity and withdraw the sheet.

CAUTION!

Do not use any sharp or abrasive objects to separate sheets from the belt. This may damage the belt surface.

- To remove a sheet from the central area of the belt (2), carefully separate the sheet from the belt surface and withdraw the sheet.



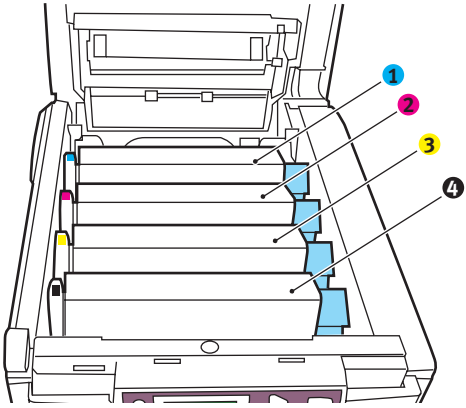
- To remove a sheet just entering the fuser (3), separate the trailing edge of the sheet from the belt, push the fuser pressure release lever (4) towards the front and down to release the fuser's grip on the sheet, and withdraw the sheet through the drum cavity area. Then allow the pressure release lever to rise again.

NOTE

If the sheet is well advanced into the fuser (only a short length is still visible), do not attempt to pull it back. Follow the next step to remove it from the rear of the printer.

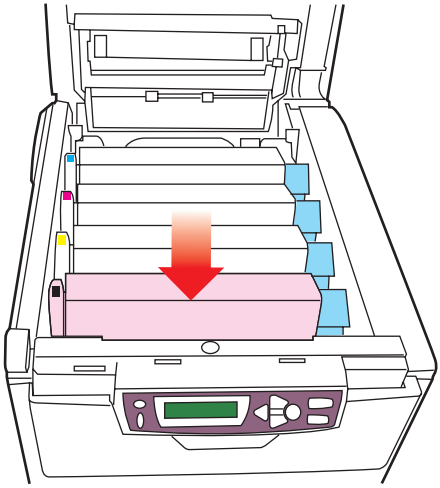
---

8. Starting with the cyan image drum unit nearest the fuser, replace the four image drums into the drum cavity, making sure to locate them in the correct order.



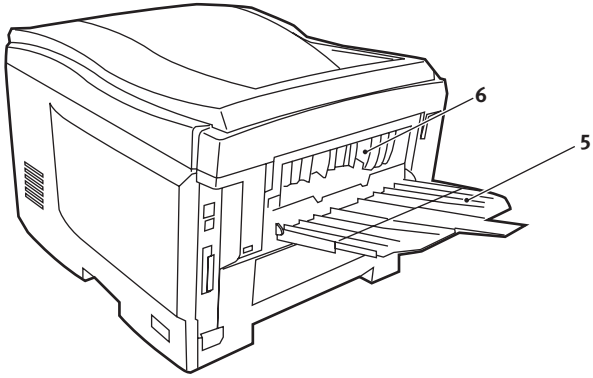
1. Cyan cartridge	2. Magenta cartridge
3. Yellow cartridge	4. Black cartridge

- Holding the complete assembly by its top centre, lower it into place in the printer, locating the pegs at each end into their slots in the sides of the printer cavity.



9. Lower the top cover but do not press down to latch it closed yet. This will protect the drums from excessive exposure to room lighting while you check the remaining areas for jammed sheets.

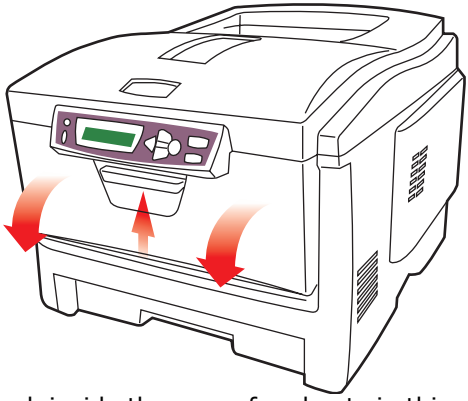
10. Open the rear exit tray (5) and check for a sheet of paper in the rear path area (6).



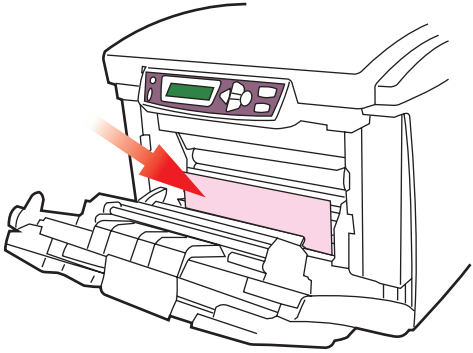
- Pull out any sheets found in this area.
- If the sheet is low down in this area and difficult to remove, it is probably still gripped by the fuser. In this case raise the top cover, reach around and press down on the fuser pressure release lever (4).

11. If you are not using the rear exit tray, close it once paper has been removed from this area.

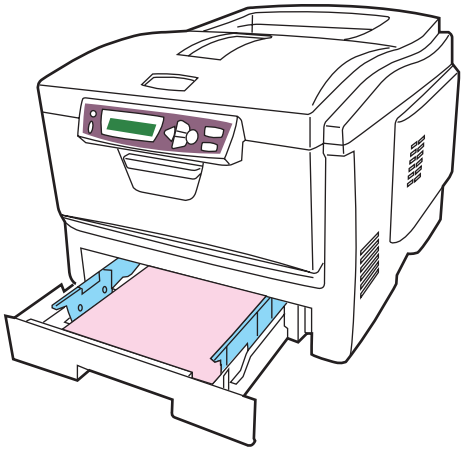
12. Lift the front cover release and pull open the front cover.



13. Check inside the cover for sheets in this area and remove any that you find, then close the cover.



14. Pull out the paper tray and ensure that all paper is stacked properly, is undamaged, and that the paper guidesareproperly positioned against the edges of the paper stack. When satisfied, replace the tray.



15. Finally, close the top cover and press down firmly at both sides so that the cover latches closed.

When the jam has been cleared, if Jam Recovery is set to ON in the System Configuration Menu, the printer will attempt to reprint any pages lost due to paper jams.

SPECIFICATIONS

ITEM	SPECIFICATION
Dimensions	425 x 561 x 345mm (W x D x H)
Weight	25Kg
Print speeds	16 pages per minute colour / 24 pages per minute monochrome
Resolution	600dpi or 1200 x 600dpi
Emulations	PostScript 3 PCL 5c, HP-GL, PCL XL Epson FX IBM Pro Printer III XL
Auto Features	Auto registration Auto density adjustment Auto consumable counter reset
Memory	128MB standard, upgradable to 192MB or 320MB (64MB plus 128MB or 256MB)
Paper capacity at 80g/m²	300 sheets in main tray 530 sheets in optional 2nd tray 100 sheets in multi purpose tray (or 50 transparencies or 10 envelopes)
Paper weight	64 ~ 120g/m² in main tray 64 ~ 176g/m² in 2nd tray 64 ~ 203g/m² in multi purpose tray
Paper output	250 sheets in face down (top) stacker @ 80g/m² 100 sheets in face up (rear) stacker @ 80g/m²
Printer life	420,000 pages or 5 years
Duty cycle	50,000 pages per month max., 4,000 pages per month average
Toner life	5,000 pages at 5% coverage (high capacity toner cartridge)
Image drum life	17,000 pages (22,000 at continuous print, 15,000 at 3 pages per job and 7,500 pages at 1 page per job)
Belt life	50,000 A4 pages at 3 pages per job
Fuser life	45,000 A4 pages

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